THE FARMERS' CABINET,

AND

AMERICAN HERD-BOOK.

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

Perfect Agriculture is the true foundation of all trade and industry.—LIEBIG.

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For the Farmers' Cabinet.

Colman's Agricultural Tour.

TO THE EDITOR,—I have been so delighted with the perusal of the numbers of this work as they have successively appeared, that I take the trouble to forward the greater part of the thirty-sixth section, which I find in the third number. Perhaps few men could be found more thoroughly qualified for the task he has undertaken, than the author of these Reports. Those made a few years since to the Legislature of Massachusetts, as agricultural surveyor of that State, established the character of our author as a man of great industry, close observation, and sound judgment. Intelligent, affable and communicative, he has been able to sustain himself with great credit in the best social circles of England, as well as to do his country credit by his public Addresses at the great agricultural meetings which are so frequently occurring among our friends on the other side of the Atlantic. We obtain from the work in question, an insight into the agricultural character and habits of the people, which, so far as I know, we would fail in seeking elsewhere. And when we recollect that his inquiries will embrace not only a detailed view of the husbandry of England, Scotland and Ireland, but likewise of French, Flemish, Swiss, German and Italian husbandry, we perceive the field over which he will labour, is not only of great extent, but will have also the advantage of being a great part of it almost new to us. We know comparatively but little of French farming; or indeed of that of the continent generally. We may anticipate in this branch of the subject a particularly rich treat. In Great Britain we feel more at home—more among our kinsmen and familiar acquaintances, than we can do on the continent, and it will be exceedingly interesting to observe how the farming operations and general economy of these strangers shall strike our tourist.

The extract which I submit for insertion in the Cabinet, will not fail to interest every one of its readers: though I could wish that every subscriber to the Cabinet was also a subscriber to Colman's work, for I am sure it will hardly be read by any one without pleasure and instruction. Before I close, I may just observe, that while we must commend the care in our author to do justice both to himself and his readers, by not too rapidly publishing his work, some of us get pretty impatient at the interval between the

numbers. Please excuse these hasty remarks, and accept my good wishes.

S. L.

Delaware co., Pa.

Elevation of Agriculture as a Pursuit and a Profession.

The pursuit of agriculture is almost universally considered as merely a profession of commerce or trade, the farmer looking wholly to its pecuniary results. In a trading community, pecuniary considerations are always liable to control the judgment and predominate over every other consideration. Where the means are limited, and the farm must be cultivated as the only source of subsistence, pecuniary returns must, of course, be the main object. Where, as in England, the cultivator is not the owner of the soil, but an annual rent must be paid, and he is liable, as in most cases, to be compelled to quit his occupancy at the pleasure or the caprice of his landlord, farming must be conducted merely as a matter of business, and there is no inducement to pursue the profession as matter of taste or sentiment. In many cases in my own country, it must, of necessity, be followed wholly as a means of support and of profit, and in some cases as a struggle for life.

But there are innumerable other cases, in which men have the power, under the most favourable circumstances, and I am most anxious they should have likewise the disposition to devote themselves to it as an elegant and liberal profession, worthy of a mind gifted even with the finest taste, and enriched by the highest cultivation. The United States present not many examples of very great wealth, at least when estimated by the standard of wealth which prevails in England, where, indeed, are to be found individual accumulations which distance all the dreams of oriental magnificence. But, on the other hand, no country upon the globe, and no condition of things since the establishment of society, ever presented more favourable opportunities than the United States for any one, by active and wholesome industry and a proper frugality, to acquire a competence, and that respectable independence, in which, with a full supply for the necessities of life, and an abundant provision for its comforts, there will be found within reach as many of the elegancies, and ornaments, and luxuries of life, as a well-disciplined and healthful state of mind can require. I have seen too frequently such beautiful examples in our country villages, and scattered over several parts of a land in many respects favoured by Heaven above every other, not to be deeply impressed with a condition of life which, where its blessings are properly and gratefully appreciated, seems to leave little more on earth for a rational and reflecting, a benevolent and truly religious mind to ask. Happy is it where its waters are not poisoned by an insatiate avarice, nor disturbed and thrown into confusion by ambition of political office or distinction, or a feverish thirst for notoriety and excitement; but in a quiet, yet not stagnant repose, they reflect everywhere the tokens of that divine goodness, which seems in such examples to have poured out its richest earthly treasures. Now, I am anxious that agriculture should occupy that place among the liberal professions to which it can be raised, and to which, from its importance, it is entitled. But this can only be done by improving the education of farmers as a class,—by multiplying, through the means of a most liberal and extended education, the charms of the country, and the subjects of interest which would be constantly more and more developed to a cultivated and inquisitive mind; and by showing that its successful pursuit, either as matter of business or recreation, where a moderate fortune is possessed or a moderate professional income is secured, is not incompatible with the highest improvement of taste, and even a vigorous and successful pursuit of learning; and that, where so pursued, under favourable circumstances, it affords as fair a chance of rational enjoyment and quiet usefulness, as any situation which the most lucrative trade, or the most successful political ambition, or even the highest professional eminence, can command.

But I fear, how much soever I may satisfy the sober and reflecting minds on this point, my opinions and persuasions will scarcely be heard, and far less heeded, in that rush for wealth, for office, and for notoriety, which, like a torrent sweeping over the country, carries every movable object in its course. It seems, however, not less my duty to record my strong convictions, which the experience of a life not short has served only to confirm. I see in my own country every where proffered to an honest industry, a wise frugality, and a wholesome self-government, the most ample rewards: I see a wide extent of rich and beautiful territory waiting the improving hand of skill and labour, to be had in many cases almost for asking, with every man free to choose where he will pitch his tent, not only without injury, but to the advantage of his neighbour: I see the means of education, of competence, and of substantial independence, held out to all who will avail themselves of them. In the midst of all this, I see thousands and thou-

sands of young men, blest with education and fortunes adequate to supply all reasonable wants in the country, rushing into cities, exhausting their small means in the extravagances and dissipations of fashionable life; crowding all the professions to repletion; pressing on, with vexation and disappointment heaped upon vexation and disappointment, into all the avenues of political office and distinction, and into all the bitter strifes of political controversy; forcing their way into the pursuits of trade without talents for their prosecution, and almost sure to involve themselves in bankruptcy and ruin; and, in one form and another, dragging on through life without satisfaction to themselves and without usefulness to others, and too often a ruinous burden upon those whom it is now their turn to succor and relieve. I cannot, therefore, help wishing that the pursuits of agriculture might be made attractive to such persons; and that, with education, and that moderate fortune which would give them the command of the best advantages of rural life, they might find in it, as far as rational happiness and humble usefulness are concerned, that philosopher's stone which in other places they are almost sure to search for in vain.—*Colman's Agricultural Tour No.* 3.

Study of Botany by Ladies.

Extract from a Lecture read before the Ladies' Botanical Society, at Wilmington, Delaware, March 2nd, 1845*; by Dr. William Darlington, of West Chester, Pennsylvania.*

Of all the intellectual exercises, kindly provided for us in this stage of being, few are more instructive, or more agreeable to contemplative minds, than the *study of nature*,—or, the investigation of the history, character, relations and purposes, of the material objects which a wise and beneficent Creator has placed around us: and, of the several departments of what are called the Natural Sciences, perhaps one of the most useful—certainly one of the most elegant and attractive—is that which embraces the varied products of the *vegetable creation*.

The *science of Botany* has for its objects the most lovely of all the inanimate works of God. It treats of those beautiful forms which annually unfold themselves to our admiring gaze—which everywhere clothe and decorate the teeming surface of the earth; affording, directly or indirectly, the sustenance of all animals, and regaling every sense, of every creature, that has a capacity to be gratified. It is a science peculiarly appropriated to gentle minds. Its cultivation imposes no tax upon the feelings—involves no cruelty—shocks no sensibility; all its incidents and attributes are promotive of corporeal health, and pure intellectual pleasure. Why, then, should not a rational acquaintance with those interesting products, which surround us on every hand, and are literally strewed along our paths, why should not such a science be made an indispensable branch of female education? As a mere *accomplishment*, it is entitled to rank with any of those ornamental acquirements to which so much time is devoted. As a means of enlarging and disciplining the mind, training it to habits of correct observation and profitable reflection, the study of plants is far superior to many of the fashionable and fugitive attainments which now so generally engross the attention of young ladies. It is a pursuit, too, which carries with it its own reward. The knowledge which it affords, is at once pleasing in the acquisition, and of enduring value. It is continually called for, and always at command, ready to minister to the instruction and gratification of the possessor—whether in the garden, the field, or the forest.

"These studies," said the Roman orator, on another occasion,—and it is even more emphatically true on this—"These studies are the intellectual nourishment of youth, and the cheering recreation of age; they adorn prosperity, and are the solace and refuge of adversity; they are pleasant at home, and are no incumbrance abroad; they abide with us by night—go with us in all our travels—and lend additional charms to the attractions of our rural retreats."

Those who make only occasional visits or excursions in the country, will find their pleasure greatly enhanced by an acquaintance with the plants which mainly contribute to the beauty of the scenery. But, by those whose constant residence is in the midst of the vegetable tribes, a reasonable knowledge of Botany should be regarded, not merely as an accomplishment, but, as one of the indispensable qualifications for the duties of rural life. I have often insisted that an American farmer should blush to be ignorant of the objects of his peculiar care; and I know not why a farmer's wife or daughter should be entirely excused for a like deficiency in her attainments. On the contrary, I believe it is to *wives* and *daughters* that we must look for the commencement of a thorough reformation. A competent knowledge of the character and properties of those plants which interest the gardener and the agriculturist, is unquestionably desirable for both sexes: and I sin-

cerely believe that the most effectual method for diffusing such information, will be to invoke the friendly aid and countenance of the ladies. Their salutary influence has been felt and owned, in many a noble cause; and I cannot for a moment doubt its efficacy here.

Some of my young friends—although perhaps assenting to the justice of these views—may yet be inclined to object, that the science of botany is so encumbered with uncouth terms and barbarous names, as to obscure its charms, and even render it repulsive to the youthful student. I am free to admit that appearances, at a first glance, seem to warrant the objection. I have experienced all its force, and can fully appreciate its influence upon others. But I can truly add, for the encouragement of beginners, that, when the study is properly conducted, and the subject comes to be rightly understood, the difficulty is rather *seeming*, than *real*. It undoubtedly appears enormous to the uninitiated,—just as strange objects are apt to be magnified, when encountered by twilight, or viewed through a mist; but there is no ground for dismay or apprehension. The supposed obstacle will either vanish, when approached, or prove itself to be an aid, rather than an impediment, in the way of the learner. It is, indeed, impossible to describe objects, or to communicate definite ideas, without the employment of terms and names; yet these are not science. They are but the *implements*—the mere machinery with which the mind operates; and should only be taken up, or resorted to, as they are wanted for use. It is worse than idle, to commence by lumbering the memory with hard words—of which the student comprehends neither the meaning, nor the application. Such a plan, I admit, is calculated only to dishearten and disgust. But let him begin—where all true knowledge begins—by a practical acquaintance with *things*, rather than with *names*—by observing features and examining structures; and he will soon perceive the importance of *terms*, by which to designate and distinguish the objects of his attention. When the investigator of plants comes to take a discriminating view of the vegetable tribes, and observes the varied, yet definite forms and arrangement of the organs, which constitute their botanical character,—so far from complaining of the burthen of names and terms, he will eagerly seek and adopt them, as indispensable aids in his progress: and he will find, moreover, that although many appear harsh and arbitrary, the greater number are remarkably significant and appropriate. A moment's reflection will convince any of us, that even in the common occurrences of life, we cannot dispense with the use of names, and what may be called technical terms; and that new ones are continually added to our stock without an effort, and almost without our consciousness. When we make new acquaintances among our own kind, especially if they are agreeable, we never think of such an objection, as that of having to learn or remember their *names*; and even in the minor gratifications of dress and personal comfort, we are all very expert in acquiring the nomenclature—strange though it be—of such articles as attract our notice or suit our fancy. The facility with which young ladies become familiar with the vocabulary of taste and fashion—their admirable tact in discerning, and their fluency in discussing the qualities and patterns of *Gimps* and *Ginghams*—*Gros des Indes* and *Mousselines de Laine*—satisfy me that *technicalities* have no real terrors for them; and the *language of botany* can never present any serious obstacle to their progress in the science,—*provided*, that they have the will and the application; and I desire no better evidence of the requisite disposition and effort, than that which I have now the pleasure to witness.

A Dream—yet not a Dream.

In one of the recent numbers of Parley's Cabinet Library, entitled "*Enterprise, Industry and Art of Man*," says the *National Gazette*, the author furnishes us with a preface in the form of a dream. It appears to us to be hit off with great felicity, and taken in connexion with the contents of the book, is in a high degree significant and striking. The preface is as follows;

"I was dozing by my evening fire-side, when one of those hasty visions passed before my mind, which sometimes seem to reveal the contents of volumes in the space of a few seconds. It appeared as if every article in the room became suddenly animated with life, and endowed with the gift of speech: and that each one came forward to solicit my attention and beseech me to write its life and adventures.

"The portly piano, advancing with a sort of elephantine step, informed me that its rosewood covering was violently torn from its birthplace in the forests of Brazil; its massive legs of pine grew in the wilds of Maine; the iron which formed its frame was dug from a mine in Sweden; its strings were fabricated in Rouen; the brazen rods of the pedals were made of copper from Cornwall, mixed with silver from the mines of Potosi; the covering of the keys was formed of the

tusks of elephants from Africa; the varnish was from India; the hinges from Birmingham, and the whole were wrought into their present form at the world-renowned establishment of Messrs. Chickering & Co., Washington street, Boston.

"While I was musing on the singular fact that the four quarters of the globe had been ransacked for the materials of which to construct this single instrument, I heard an extraordinary rattling in the china closet. On opening the door and looking in, I beheld with amazement, every article—plates, platters, bowls and tumblers, casters and cream pots, salvers and salt dishes—attitudinizing, as if inspired with some extraordinary emotion. All began to speak at once, and a confusion, worse than that of Babel, saluted my ears. Amid the din, I could gather only a few detached sounds. The set of phials in the caster-stand seemed to have the advantage of lungs, and I therefore gathered the following sentences: 'I,' said Mustard, 'was raised by an old woman in France, and manufactured in Paris.' 'And I,' said Pepper, 'was cultivated by the swarthy Malays of Sumatra, and made a voyage half round the world to get here!' 'And I,' said Ketchup, 'came into existence as a mushroom, and was pickled by Underwood, of Boston.' 'And I,' said Soy, 'was reared and manufactured in Japan!' 'And I,' said Sweet Oil, 'came from the sunny climes of Italy.' 'And I,' said Vinegar, with a scowl and a scream, 'I came from hard cider!'

"Bewildered by the clamors of the china closet, I shut the door in the face of the insurgents; but if I silenced one source of annoyance, another was before me. The carpet rose and fell like waves beneath my feet, and at length one of the large circular figures stood erect, and with goggling eyes and enormous mouth, addressed me as follows:—'I was born on the backs of sheep that were fed in Asia Minor; I was spun by those who pray five times a day to Mahomet, the colours that decorate me were gathered from the three kingdoms of nature, and I was woven in a machine, the invention of which consumed twenty centuries!'

"Scarcely was this speech ended, when I saw the mirror swaying rapidly back and forth, and after a moment it exclaimed: 'Listen to me! The glass which forms my face was once the waste sand of the pit: this was purified and exalted by fire. I was then polished by the artisans of Paris. The quicksilver which gives me my magical power, was dug from the mines of Almaden, a thousand feet below the surface of the earth: the gold which gilds my frame was washed from the Mountains of the Moon by the Niger, and having passed through the purse of the king of Ashantee, was beaten to the thinness of the thirty thousandth part of an inch.' Hardly was this burst of rhetoric ended, when the Argand lamp declared that its oil once dwelt in the head of a whale seventy feet in length, and which had ploughed the Pacific for half a century. A book that lay upon the table, spoke of containing in its leaves a variety of rags, gathered from the four winds, each of which could tell a tale: and a sofa said something of hair from the tails of wild horses, caught on the Pampas of South America, and lofty trees of mahogany cut down amid the mighty forests of Campeachy. The scene grew more and more bewildering—and as each object seemed to be endowed with a fiercer aspect and a louder tone, my heart beat violently, and I awoke! Looking around, I saw before me a note from the printing office, which ran thus:

"Dear Sir,—Please furnish us copy for the preface to the 'Enterprise, Industry, and Art of Man.'

Yours, J. R.

"If the kind and considerate reader will bear in mind that a preface, though placed at the beginning, is the last thing written; and if, moreover, he has the patience to peruse the following pages, he may come to the conclusion that the preceding dream was neither unnatural, nor a very unapt interpretation of the contents of the volume."

The pages which succeed this fanciful introduction are designed to exhibit the enterprise, still continues the Gazette, industry and art of man, as displayed in fishing, hunting, commerce, navigation, mining, agriculture and manufactures. They are replete with entertaining sketches, likely descriptions, and striking reflections. We make two or three extracts, which will be read with interest, and give some idea of the scope of the subject, and the happy style in which it is treated by the author.

Whale Fishery.—But if the dangers and privations of the whale fishery are great, its beneficial results are an adequate compensation. It is impossible to compass in a single view the blessings bestowed upon mankind by this branch of enterprise. There is no member of society who is not indebted to this source for many of his enjoyments. Let the ladies consider that the perfection of their stays is derived from whalebone, and let him who carries an umbrella, make a similar reflection. Let the traveller who glides along twelve miles an hour in a steamboat, or twenty-five in a locomotive, consider that he is under obligation to the

whaler for the oil, which thus smoothes his way and expedites his journey. Let the man who buys cotton for a shirt, at ten cents a yard, thank the whaler, for it was whale oil that lubricated the machinery which produced it. Let every human being that wears cloth, or consumes any other article produced by machinery, acknowledge the obligation he owes to the daring perseverance of the whaler, for these are all, in some degree, the results of his toil and enterprise. Let even the dainty readers of books consider that by the light which is the product of the whaleman's skill, their pages are, perhaps, composed; and let every family circle, happy and cheerful in the blaze of the astral lamp, remember that they too, owe their enjoyment, in part, to these adventurous men of the harpoon. Let even the members of the brilliant evening party remember that the light which gleams from ranges of spermaceti tapers, and bestows on beauty more bewitching charms, is the fruit of the seaman's danger and the seaman's privation. Alas, how "little does one part of the world consider in what manner the rest live!" While the dance and the song enthral the gay circle of the saloon, how far are the joyous throng from reflecting that thousands of their fellow-beings are upon the treacherous wave, toiling and suffering to provide a luxurious light to shine upon their pleasures!

The Seal Fishery.—We are little apt to consider the romance which is involved in the history of many of our commonest comforts. The boy with his seal-skin cap is content to feel its warmth in the bitter breath of winter, without reflecting upon the tale that cap could tell, if it were gifted with speech. Its original owner was born and nursed upon an Arctic shore, where winter holds an almost eternal dominion. There, amid fields of ice, and in daily familiarity with the whale, the walrus, and the white bear, it pursued its joyous and sportive career. Diving in the depths of the sea, or migrating on floating fields of ice, it seemed forever happy in companionship with its fellows, and gave even to the ghastly scenes of the Artic world an aspect of cheerfulness. At length it was slain by the spear of the Esquimaux, or the club of the sealer; the skin was stripped off and transported to Europe. Having undergone a process of dressing, it crossed the Atlantic, passed under the hammer of the auctioneer, reached the shop of the furrier, and after due conformation from the shears and needle, arrived at its ultimate destination on the school boy's pate.

Extent of Agriculture.—If we reflect that about

800,000,000 of human beings,
50,000,000 domesticated horses, asses and mules,
150,000,000 domesticated cattle,
300,000,000 domesticated sheep,
80,000,000 domesticated swine,
12,000,000 domesticated goats,

are to be fed every day by the industry of man, we shall have some faint conception of the vast scale upon which the operations of agriculture are conducted. If we conceive that the sun, in its daily course, wakes up the whole human race to their labours, and imagine ourselves as accompanying his morning rays in their flight over the world, we may easily fancy the spectacles of activity we should witness, on the hills, and in the valleys, and spreading out from the arctic to the antarctic circle!

Wonders of the Cotton Manufactory.—Nor will our wonder be abated, when we consider the results of these establishments. A single cotton factory—that of the Merrimack at Lowell—produces 250,000 yards of cotton cloth a week, or 12,500,000 yards a year. There are about 5000 yards of thread in a yard of cloth; thus every working day, this factory spins 600 million feet of thread; 50 millions every working hour, and nearly one million every minute! Thus, a cord of sufficient length to belt the world at the equator, is produced by a single factory, in two hours. This is the work of one establishment, and is not more than a two-hundredth part of the whole manufacture of the United States! The length of thread drawn out by the cotton factories of the world, cannot be less than fifteen millions of feet every working second, or every time the heart beats! Such is the bewildering magnitude of the scale upon which this single branch of human industry is conducted.

Wonders of the Iron Manufactory.—The amount of iron annually produced in the United States, is 300,000 tons, all of which, and much more, is consumed in this country. The amount of nails alone is supposed to be 50,000 tons. Forty thousand casks, or four million pounds, are annually made by the Boston Company, on the mill-dam. If we suppose that the nails will average 160 to a pound, the number here produced each working day, would be nearly two millions! This is supposed to be but the twenty-fifth part of the nail manufacture of the United States! It seems incredible that about fifty millions of nails are made, bought, sold and used, every day, in the United States—yet such seems to be the fact.

He who has no bread to spare, should not keep a dog.

The Soiling System.

From an account of the farming of R. L. Pell, of Ulster county, N. Y., in the American Agriculturist, we make the following extracts:

Treatment of Milch Cows.—During the summer, Mr. Pell's cows are kept in the barn-yard, soiled. They are fed three times per day, at stated hours, and in addition to their ordinary food, receive at 12 o'clock, each day, about eight quarts of wheat-bran, wet with water. The general feeding is dry hay, green grass, green cornstalks, occasionally a few potatoes, and salt whenever the cows feel a disposition for it. Water they have access to at all times of the day and night, and should never be without it. An experiment was tried of giving the cows water only three times a day, immediately after eating their food, and they seemed satisfied. They were then constantly supplied, and drank freely nine times in one day, taking apparently as much at each draft as when allowed water only three times; so that when permitted to drink only three times a day, they must have suffered from thirst in the intervals.

When the weather is very hot or rainy, the cows have sheds made partially under ground, into which they can retire and ruminate undisturbed. With this treatment they constantly take on fat, and secrete twice the quantity of milk that they would if allowed to run at large. During the last summer, the cows gave an average of sixteen quarts of milk daily, and in the fall were fit for the butcher.

In the winter they are kept in stalls in a warm barn, littered freely, as occasion requires, and daily curried and rubbed. When the weather is fine, they are turned into the barn-yard for exercise, in the middle of the day. Twice a day they are fed on cut oat and wheat straw, with a small quantity of bran sprinkled over it, for the sake of which they eat their allowance entirely up, and once a day cut hay; they are salted four times a week, and have roots, such as beets, carrots, potatoes, or turnips, once a week. By cutting the straw and hay, cattle are enabled to eat their meal in twenty-three minutes; whereas, if uncut, they are engaged in masticating their food half the night, the labour and fatigue of which deprive them of the necessary time required for their rest.

Advantages of thus Soiling Stock.—Mr. Pell carted from his barn-yard 230 loads of manure on the 10th of May, which was made in the preceding six months. On the 10th of November, from the same yard, he carted 236 loads more, averaging 30 bushels per load, made within the six months following the 10th of May. Five cows only were kept, which thus made 466 loads of good manure in one year. During the summer, leaves, straw, &c., were constantly thrown into the yard, and occasionally covered with charcoal dust. Each cow voided in six months, 6,000 lbs. of urine, which was absorbed by the refuse, and its strength retained by the charcoal dust, gypsum, &c.; the manure, therefore, was intrinsically worth the New York city price, viz: $1 the wagon load, or $466.

In addition to making this great quantity of manure, the other advantages of soiling are:—1. No cross-fences are required on the farm. 2. The cows give twice as much milk as when running at large. 3. They are fit for the shambles in the fall, being fat. 4. They are always ready to be milked. 5. They are never worried by being driven to and from the pasture. 6. They eat all the refuse grass, which would otherwise be lost. 7. Eight acres will keep them longer and better than forty would depastured. 8. The fields are always in order, not being poached by their feet in wet weather. 9. Manure enough is saved to pay the interest on a large farm. Numerous other good reasons might be given, if the above are not considered sufficient.

The above experiment of Mr. Pell, showing the superiority of the soiling system, is strongly corroborated by others made in Europe, though probably unknown to Mr. Pell when he commenced his. We quote from a speech recently made before a meeting of the Larne Farming Society, in Ireland, by Mr. Donaghy, superintendent of the Agricultural Department of the Larne National School:

"Mr. Smith, of Deanston, a gentleman whose scientific and practical knowledge as an agriculturist, has placed him in the first rank of the improvers of the soil, is no mean authority in support of the soiling system. In the summer of 1841, he made an experiment on a dairy of twenty cows, pasturing the one-half and house-feeding the other. He selected them as equally as possible, in point of carcass, condition, and milking quality. The result of his experiment was, that the cows house-fed, gave their milk more plentifully and more uniformly, and continued throughout in excellent health, and improved in condition from 30*s.* to 40*s.* per head over those at pasture. The cows house-fed were kept on three-quarters of a statute acre each, whilst those that were pastured, required one and a quarter acre of pasture, and a quarter acre of cut grass and vetches, making one acre and a half for each; so that, upon the whole,

about one half the extent of ground necessary for the keep of cows at pasture, was sufficient for those kept housed.

I could adduce abundance of other proof, from equally respectable gentlemen, in support of the superiority of this system to that in general use; but I shall content myself with merely saying, that if, according to Mr. Blacker, a gentleman who deserves the best thanks of the agricultural community, three cows could be kept on the same extent of ground as is at present required to keep one—the benefit thus resulting to the farming interest would be immense. But the increase of milk and butter consequent on its adoption, would not be the only resulting advantage—the increase of the manure heap would be equally advantageous. No farmer, I care not how good his practice may be in other respects, can farm *profitably*, without a plentiful manure yard. Now, it has been calculated, that on an average, cows are not kept in the barn at present, more than eight hours each day, throughout the year. If such be the case, and I have no reason to question the correctness of the calculation, would not a cow that is housefed summer and winter, produce three times as much available manure as one pastured? If, according to Mr. Smith's opinion, two cows could be kept in the place of one, six times as much manure could be made—if Mr. Blacker's views be correct, nine times as much manure could be realized. I contend, therefore, that the general adoption of this system would do away with a great deal of the poverty, privations and misery, with which the small farmers are at present beset. And how? By increasing the means of subsistence."

Communicated for the Farmers' Cabinet.

Philadelphia Agricultural Society.

At a stated meeting of the Philadelphia Society for promoting Agriculture, held at their Room on the 4th instant, Doct. Mease, President, in the chair,—fifteen members present.

The minutes of the last meeting were read and adopted.

The following named gentlemen were appointed a committee on Crops for this year, viz: C. S. Smith, I. W. Roberts, George Blight, Dennis Kelly and Isaac Newton.

Dr. Emerson having informed the Society, that a *machine for crushing bones* had been erected on his farm in the state of Delaware, and was now in use, the following gentlemen were appointed to view its operations, and report thereon to the next Stated meeting, viz: A. S. Roberts, Dennis Kelly and Aaron Clement.

The following gentlemen were appointed a committee of arrangement, for the purpose of making the necessary preparations for holding the annual exhibition and cattle show of the Society, in the approaching autumn; viz: John Lardner, Isaac W. Roberts, Dennis Kelly, Owen Sheridan, C. S. Smith, George Blight, John S. Haines, Isaac Newton and Dr. A. L. Elwyn.

The following Report was on motion adopted:

The committee on farms, appointed by the Philadelphia Society for promoting Agriculture, respectfully report, that after due notice had been given to farmers in the spring of 1843, of the intentions of the Society to award premiums to successful competitors for the best managed farms, under certain regulations and requirements, they proceeded, as they were notified by the occupants or owners of farms, to examine them. During the two years allowed for the purpose of application and examination, your committee regret to state, that they have been called on in the line of their duty, but by six persons, whose farms they have visited and examined; viz: Messrs. Levi Morris, John Hunter, Jesse George, David George, Samuel C. Ford, and James Gowen. But as the five first named gentlemen have failed to furnish the committee answers to the inquiries made of them on the subject of management, expenditures, profits, &c., of their farms, or having since declined competition, they can only express their opinions in regard to the appearance of their farms, stock, &c.; a compliment which they think is justly due to those gentlemen for their polite and hospitable reception, and kind treatment of the committee.

The farm of Mr. Morris is situated in Lower Merion, Montgomery county, and contains about 600 acres of land, well watered, and has a fine Southern exposure. It is divided into large fields, with good fences, and was at the time, occupied by three tenants; the two Messrs. Johnson and Mr. Coulter, who have separate establishments and different parts of the farm. They keep large dairies, and attend the markets regularly with butter, and other articles of produce, besides raising large crops of grain and hay—they are evidently good and successful farmers.

In the old mansion yet standing on this place, formerly resided the venerable Charles Thompson, Secretary to the first American Congress, during the Revolution. Mr. Mor-

ris, the present owner of the estate, has erected a neat and tasteful cottage on a pleasant part of the farm, in which he resides.

The farm occupied by Mr. Hunter, is in Blockley township, near the Lancaster turnpike, and contains over 200 acres. Mr. Hunter keeps a large number of fine cows of improved breeds, principally Durham, from which he furnishes a great supply of milk to customers in the city. And although his grass fields were not as clean as the committee could have wished, they are pleased to state, that his crops appeared to be abundant, and his farming operations managed with skill and good judgment; and on both occasions of their visits they were shown the largest collection of manure that they had seen on any farm, neatly put up in an oblong heap, and protected by being properly covered with earth. His farming utensils, &c., were under cover and all in their proper places.

The farms of Messrs. Jesse and David George, are both in the neighbourhood of the above, and also on and near the same road. These gentlemen each have their fine milk dairy establishments, and farm but a small proportion of their land. They have been, as they informed the committee, in the practice of top-dressing their pasture and hay fields, in turn, for some years back; and in addition to the manure produced by their large stock, find it to their advantage to purchase street dirt and other fertilising substances from the city, which enables them to dispose of a large quantity of hay annually, besides keeping their stock of cows and horses. The committee were highly gratified in viewing their farms, abounding with the finest and most luxuriant grasses of different kinds, of any that they had seen—free from weeds or other objectionable matter. The buildings are substantial and tasteful, the fences in excellent order, and all in character with the high condition of the farms, reflecting great credit on the skill and industry of the owners.

Mr. Ford's farm is situated in Philadelphia county, on the Second street road, about five miles from the city. The buildings are extensive and substantial; his handsome lawn, and highly cultivated garden, both display a great number of the finest fruit trees of different kinds. They appeared to be producing abundantly, and were in fine condition. The farm showed evident signs of improvement, considering the short time that it had been in the possession of the present spirited owner; and the committee felt assured, that a great reformation was in progress, and that Mr. Ford's farm would in time be an ornament to his neighbourhood.

The neat and highly cultivated farm of Mr. James Gowen, of Mount Airy, contains upwards of 100 acres, and with its substantial and extensive buildings, beautiful garden, fine fruit and ornamental trees, hedges, &c., high bred and superior Durham cattle, pens of swine of the most approved breeds, &c., was viewed by the committee with great satisfaction. The improvements made by Mr. Gowen on his farm, are of the most substantial and tasteful character; and although some of his operations may have been attended with great expense, the work has been well done, and will not again require another outlay.

His system of soiling appears to have been highly successful, and his root crops, the admiration of the country. Much might be said by the committee in attempting to describe the improvements made, the management and condition of the farm, and all matters connected therewith; but they rather choose to refer the Society to the statement made by Mr. Gowen himself. After mature reflection on the subject, the committee have unanimously arrived at the conclusion, that it would be most proper to grant no premiums at this time, as there appears to be but one qualified competitor.

AARON CLEMENT,
ISAAC W. ROBERTS,
CORNELIUS S. SMITH,
HENRY CHORLEY.

On motion it was resolved, that the following premiums be offered for farms the present year:—

For the best managed grass or dairy farm, over 50 acres, $30.

For the second best managed grass or dairy farm, over 50 acres, $20.

For the third best managed grass or dairy farm, over 50 acres, $10.

For the best cultivated farm over 50 acres, $30.

For the second best cultivated farm over 50 acres, $20.

For the third best cultivated farm over 50 acres, $10.

Applicants for the above premiums will be required to answer such questions as the committee may think requisite, regarding the mode of management, expenditures, products, profits, &c. Committee for the above, Aaron Clement, I. W. Roberts, C. S. Smith.

Extracted from the minutes,

AARON CLEMENT, *Rec. Sec'y.*

Philadelphia, June 5th, 1845.

For the Farmers' Cabinet.

James Gowen's Report to Philadelphia Agricultural Society.

To the Committee on Farms:

Gentlemen,—It is known to most of you, that since I became a farmer, I have spared no pains to fulfil the duties of the calling, in a manner creditable to the commuity in which I live, as well as to myself and the Agricultural Society to which I belong—that while improving my own practice, I have endeavoured, by sundry means, to stimulate others to compete with me in spirited efforts, to arrive at excellence in the highly useful and delightful pursuits of agriculture; and to promulgate as far as in me lay, such improvements and results, as were likely to promote the general interests of the farmer. In carrying out this object, I have as part of the system, always been found competing in crops and cattle, for the premiums offered by "The Philadelphia Society for promoting Agriculture." It is therefore in accordance with this practice, that I now present my farm, as worthy of note, when you come to award the premiums committed to your distribution: in view of which, and in fulfilment of the rules and regulations of the Society, I submit for your consideration a general statement of its character and condition.

The Homestead Farm contained, when I removed to it in 1834, about 60 acres; since then I have added to it by purchase, some 40 acres, all of which is contiguous; making over 100 acres, exclusive of the Woodland Farm in Cheltenham township, Montgomery county, part of which is cleared and worked by me, and is in fine condition, as you may recollect from my communication on the crop of rye, raised there in 1842.

From long neglect and a bad practice, previous to my coming on the Homestead, I found it in every respect in a wretched condition. The results of bad ploughing and bad seeding, were visible in the unevenness of the surface; and the pernicious weeds that seemed to have entire possession. I at once took up the old fences which divided about 40 acres into small fields, ploughed it up, eradicated the briers and brambles that filled so large a space along those fences, and removed the stones within ploughing depth. It was cropped according to circumstances—alternately with potatoes, corn, grain, &c., until the soil had been brought into proper subjection in the fall of 1839; when it was laid down for grass, by sowing it with grain and timothy; since which it has not been disturbed, with the exception of about eight acres in rye, this year; and yet this last summer it cut, I may safely say, two tons to the acre, and expect it to do as well next summer, should the season prove favourable. By this practice I brought every inch of the land to bear, and saved ten years expense, or wear and tear of the six fences which formerly stood inside this section. The fields in future will be divided by hedges of the *Maclura thorn, or Osage Orange*, raised by myself; four of these hedges already in, with plenty of quicks on hand to supply the remainder. These remarks you will please observe, apply to the land lying on the south-east side of the lane that divides the farm. The land on the north-west side, opposite, called the Spring fields, was, if possible, in a still worse condition. Owing to the swampy nature of part of it, and the washings from the higher lands on the other side the lane, the posts were every spring thrown out of place as the frost left the ground, while the ravines furrowed out by thaws and heavy rains, set at defiance all attempts at cropping or farming. To obviate the yearly setting up of the fences, which was not only expensive, but vexatious, I substituted a stone and lime wall for the post-and-rail fence. The wall is about half a mile long, is two feet below the surface at every point, two feet broad at base, and averages over six feet high from bottom, ending with an eighteen inch coping. One large under-drain, with grating at mouth, takes the water from the lane, while several smaller drains keep the surface of the land perfectly dry. The ravines were well filled up, and ever since, for a series of years, good crops of potatoes, corn, grain and grass, have been taken, where formerly grew spatterdock and rushes.

The land added to the farm at sundry times within the last five or six years, was, in the general, in as bad a condition in many respects, as the worst of that already described; indeed, it could furnish material for a more repulsive picture than any that has been drawn yet; but as most of you have repeatedly seen it in its original state, I need not trouble you with a description. To show its condition now, I need only remind you, that two years ago I obtained a premium for raising upwards of four hundred bushels of Mercer potatoes to the acre, on this land; and that on the succeeding year, from the same potatoe land I took upwards of fifty bushels of wheat to the acre, without any additional manure. Also, that last year I submitted a field of some seven acres of corn, on another portion of this land, which yielded at the rate of 200 bushels of ears, equal to 100 bushels shelled corn to the

acre. My reports on the condition of these fields, and the aforesaid crops, are in possession of the Society. The corn land was in this year with potatoes and oats. The potatoe, four acres, yielded over 200 bushels to the acre; the oats were very good—it is now laid down with wheat and orchard grass. This sketch, with your own personal observations, will afford you some idea of what I had to contend with, and what I have accomplished in the way of improving land, and the present condition of my farm.

From the difficulty and expense in procuring manure from the city, and after three or four years experience in that mode of supply, I gave it up, and adopted the plan of making a supply on the place, by an increased stock of cattle; from which I have derived my sole supply ever since, with the exception of light dressings of lime and gypsum, and a small lot of stable manure which I was tempted to purchase a few weeks since at auction, and which I can dispense with, should I meet with a purchaser before its removal in the spring. The keeping and breeding fine stock had in itself strong claims upon my judgment, as well as my taste; as I could never think a farm was what it should be, unless it could exhibit fine cattle, as well as an improved culture. To maintain this stock, and bring my land to a high state of cultivation, by the most efficient and economical practice, has been a leading object; and to accomplish this, required no ordinary management on such a farm. The stock in cattle has ranged for years, from forty to fifty head, in addition to the necessary horses, with a large stock of swine for breeding and fattening; and these I have fed from the produce of the farm, except the purchasing occasionally of some straw, and supplies of mill-feed for the horses and swine, and some meadow hay for the cattle, selling frequently its equivalent in timothy. During the same period I have sold hundreds of bushels of rye, some wheat, and on an average, four hundred bushels potatoes annually, with some three to four hundred bushels of carrots, besides providing for the family. But the chief income was derived from the cattle, of which I shall speak more at large presently.

My expenditures during the whole period, could not be otherwise than large; as I could not put up so much stone fence, and picket-fence, as enclose my farm, without incurring a heavy outlay; but I view these improvements as cheap in the end. It may be safely inferred, that there is not at this day, any farm of the same extent in this part of the country, that can so easily be worked, or will require so little expense for a series of years in keeping the fences in order, especially when the hedges are taken into account. I am also of opinion, that taking in view the condition of the soil, as to depth and richness, as well as its being entirely free of stones and other impediments, that I can make it produce as much as any farm of its size in any part of the country, for a series of years, and at as small an expense.

The secret of keeping so large a stock on so little land, consists in my practice of partial soiling, and green crops, whereby I make some four to five acres do the work of thirty acres, in the "slow and easy go way." From May to August, my cattle are confined to one or two fields, most commonly one, to which they are driven, more for exercise in the cooler parts of the day, than for pasture; they being fed in the stables, early in the morning, at noon, and at night, with food cut for them from a lot adjoining the barn-yard. This food is generally of lucerne, orchard grass and clover, oats and corn. The patches from which the corn and oats are cut, are always sowed with turnips in August. No one can credit, unless he has had proper experience in the matter, the quantity of food that one acre of lucerne, one of rich orchard grass and clover, and one of oats and corn, afford from May till August, nor can he estimate the great saving in manure, much less the comparatively good health of the cattle, from not being exposed on naked fields, under a fervid sun, toiling all day in search of food. This practice allows me to crop almost the whole of the land, and to make some 120 to 150 tons of hay annually. In the fall, from August till November, the cattle have the whole range of the mowed lands, as I do not cut second crop grass for hay. Then for winter feed, I have always an acre of sugar beet, half an acre of sugar parsneps; half an acre or more of carrots, for my horses; and generally three to four acres of turnips. I report to the Committee on Crops this season, over 100 tons of these roots. In 1843, I gathered from one acre, 1078 bushels sugar beets, 60 lb. to the bushel; carrots at the rate af 687 bushels; sugar parsneps 868 bushels. This year 972 bushels sugar beets; 970 bushels carrots; 700 bushels sugar parsnep; and from three and a half acres, 2500 bushels of turnips, sowed with timothy seed.

The farm buildings consist of three substantial stone barns, one 70 feet by 33, another 50 by 26, and another hipt roof with cupola, 57 by 25, besides a large overshoot stable and hay house, stable-high of stone, 60 feet by 30—the lower floors of all these are made of broken stone and lime, planked, being vermin proof. There are also a corn

crib capable of holding 1200 bushels corn, one barrack, ample hog pens, and sheds for carts and wagons. The barn buildings have been filled this fall to their utmost limit, except the corn crib.

A substantial stone wall encloses the principal manure heap; the drainings from this heap are led into a place of deposit, in which are received also a drain that runs under ground from the kitchen, as well as drainings from the pig pens, and the washings from all the yards. These drainings form an important item in the supply of manure to my land; it is a saving which I cannot estimate at less than $200 a year. This liquid by a simple process is applied to the patches of roots, &c., and to this may be ascribed my great success in raising such crops.

The dwellings, green house, shrubbery, and gardens, I need not describe; but it is in point to notice the nursery of young ornamental trees, and Maclura for hedges, raised on places mostly waste on other farms, from which I have an ample supply for my own setting out, and a considerable stock to spare of Magnolia Tripetalla, or Cucumber tree, and Silver Maple, of fine size, suitable for transplanting. I sold over fifty dollars worth last spring of these trees, and have several hundred dollars worth still on hand, for sale.

Of *Improved Cattle*, my first effort was with the celebrated "Dairy Maid," still owned by me. Her first calf, Leander, by *Whitaker's* Prince of Northumberland, was reared, and kept by me, for breeding. Dairy Maid's calves alone, exclusive of Leander, have already sold for more than $500. It would be curious to trace her profit at this day, by stating an account of her first cost, her keep, and that of her son Leander; crediting her by sales of her own calves and grand calves; deducting for the portion of capital which was invested in the dams that produced the grand calves. To do this would extend this paper to an unusual length—suffice it to say, that Dairy Maid has long since paid for herself, and that those who laughed at me for giving $540 for one cow, may turn this statement over in their minds, and think, whether since 1838 any investment of theirs, to same amount, in any other branch of husbandry, has paid so well. But they may exclaim, "I cannot do the like again;" yes, I can—for if the price of fine cattle be reduced through their becoming plentier, (thanks to those who made them plentier,) the principal invested may not be so large, in the purchase of one animal to begin with, but there cannot be a doubt if she be superior or superlative, the produce of such an animal will realize as good a percentage in future, as did that of Dairy Maid. But there is a satisfaction beyond that of the pocket, and that is, that Dairy Maid's breed will be of infinite service to the country. Her calves and grand calves, are pretty well scattered already—and I make no doubt, but where ever found they will demonstrate the high character of the parent stock.

My sales for the last two years, exclusive of Dairy Maid's calves, amount to over $2000. The stock now on hand is about 40 head, principally Durhams, among which are Dairy Maid, Cleopatra, Walnut, Victoria, Ellen Kirby, Miss Model, Victorina, Judy, Bessy Bell, &c., &c. The butter sold for the last two years exceeds $750; this is a respectable item, when the calves that were reared, and the supply for my family are taken into view. From early fall to spring, the butter averaged 70 lbs. per week—the quality highly appreciated abroad, as well as at home. In butter, cream and milk, there is no stint at Mount Airy; so of fruits, vegetables, hams, &c. If I be a large producer, I may be also classed as a large consumer, and did I not produce, the markets would have to suffer accordingly.

In the hog line, I have been quite successful, at least in bringing the animal by judicious crossing, to great perfection. I fatted off my old Lincoln, and Berkshire Boars, and my Hampshire and Chester county Sows, last month; they weighed from 400 to 450 lbs., sold for $86.24. Have sold the last two years of pigs, designed for breeding, $150. Bacon, lard, &c. over $120, besides, having on hand 14 fine young barrows, last fall's pigs, now ready for slaughter, which will weigh from 250 to 300 lbs. each, value $150. The stock on hand consists of one fine boar of Lincoln, Hampshire and Berkshire breed; one brood sow of Berkshire breed, 12 shoats and seven pigs. The sow and pigs are the same that took the premium at the last Agricultural Exhibition.

Building and work, independent of the farm, induced to the keep of a heavy stock of working horses, consisting of five employed occasionally hauling stone, sand, &c. They are the same horses originally purchased, at and since the commencement of my farming operations; having neither *sold*, *lost*, nor *exchanged one*. The two carriage horses average 20 years old each; my favorite of these, is quite 25—so much for management in this department. The implements—wagons, carts, ploughs, harrows, &c., &c., are in keeping with the farm, and are well kept as you may have observed.

I keep no farmer on the place, in the character of manager, having never as yet been able to find a man qualified to conduct the operations of the yard and field, in man-

ner as they should be. My practice is, to hire one man for general work, at $20 to $25 per month, also, two hands for out-door work alone, who are capable to work at any job of farming; they have employment from early spring till first of December, at 75 cents per day—these three find themselves. Then, there are two men engaged constantly, feeding and taking care of cattle, feed, manure, &c., who receive from $10 to $12 per month, and found. By this arrangement I have always a pretty strong force to act on emergencies, and to avail myself of seasonable operations. My work is generally well done and timely done.

I have thus given you a general insight into the condition of my farm, and the system by which it has been brought to its present state of perfection. If substantial fences, clean fields, well worked land, good crops, good barns, and splendid cattle, be essential to constitute a good farm, I trust you will find none of those features wanting on mine.

Very respectfully, your obedient servant,

JAMES GOWEN.

Mount Airy, Dec. 24th, 1844.

Art of Mowing easily.

JOHN R. PITKIN gives the following directions for moving, in a late number of the N. Y. *Farmer and Mechanic*, which he says he has long practised to advantage, and ease to himself...ED.

The scythe should hang natural and easy, and it must be kept in first rate order.—As you approach the standing grass, let the point of the scythe move to the very point of commencement, and let it stop the instant it has done its work. Thus there is nothing lost by a backward or forward swing. If the grass stands up so as to admit of moving on, measure the utmost capacity forward of your scythe, take a quick easy gait, moving your right foot well up towards the standing grass, and your body with it, though leaning back, by bending the knees a little forward, so as to bring your whole weight to bear upon the scythe, without twisting the body from right to left, as many do; thus giving ease to each clip, and ability to repeat in an advanced position, without fatigue.

If you swing six inches too far back, and six inches too far in pointing out, it makes twenty-four inches *loss!* Then apply the same strength to a proper forward motion, and you will find it difficult for ordinary mowers to keep up.

Woodville, L. I., May, 1845.

The Southern Planter says that *Pennyroyal* mixed in with the nests of hens, will certainly protect them from the annoyance of vermin.

Preservation of Peach Trees.

THE Conversations at the New York Farmer's Club, are generally of quite an interesting character. Some valuable hints may probably be gathered from the following remarks made at its meeting on the 20th ult., on a subject in which almost all have an interest. The use of tobacco around the roots of peach trees was recommended by a corespondent of the Farmer's Cabinet, in the 9th No. of our last volume, page 274.—ED.

CHEEVER NEWHALL, Esq., Vice-President of the Massachusetts Horticultural Society, in the Chair.

Mr. Wakeman—I present a paper on the Peach tree, from my worthy friend Geo. F. Hopkins. The well known havoc made by its enemies upon that delicious fruit tree, renders every suggestion for its defence and preservation most acceptable. The letter recommends tobacco tied around the bodies, and the application of alkalies, of whale oil, and of blacksmiths' cinders, to the roots. I noticed a case in Philadelphia, of a tree on the roots of which hot water had been poured, and soot and lime applied, and the tree bore good fruit every year for 20 years. I refer to Mr. DePeyster's statement at a former meeting, of his success in consequence of placing anthracite coal ashes around the roots of peach trees.

Col. E. Clark—Lime recently burned, placed at the root of a tree, has the effect of killing worms; many of them are dissolved, when in contact with the lime; being moist, they afford the means of their dissolution. Common tansey, planted next to the roots, is said to keep off the worms. When lime is sprinkled at the root, it must be wet either by rain or by hand. I know of no better remedy.

Mr. Wakeman—I ought to mention that the tree in Philadelphia was annually whitewashed.

Ethan Campbell, Esq.—I applied quicklime to the roots of 10 peach trees, annually since 1839, and those trees are healthy. I planted tansey at the roots of 20 peach trees; they were not attacked by worms. The worm bores a hole through the bark at the edge of the ground; its eggs are hatched in June, and I have taken 30 worms out of the bottom of a single tree. The trees protected by tansey, give me full crops of fruit, and fine too, annually. Ten peach trees to which I applied nothing, all died the third year.

Col. Travers—I planted on my farm in Jersey, 900 peach trees. I treated them every way, ashes, lime, I cleared the roots—and had 120 left. One near my home, I cultivated as I would a cabbage, leaving no grass or weeds near it, that one is a healthy and vigorous fruit bearer—*cultivation does*

that for it. The tree and all plants must, like animals, have good and proper food. The grub worm does not mind ashes, or lime, or salt, he will crawl out of it, and I have tried by wrapping him in these substances to kill him, and he don't mind it. I tried it on bots taken alive from a dead horse—the bots were not killed by it, nor by any of the articles given to a horse as remedies for bots. This animal does not die either in or out of a horse, by being enveloped in the articles. As to the peach tree, I wrapped a bandage and a mat over that, around the body of the tree, just under the forking of the branches, yet the worm eat down to the ground. All the remedies applied at the roots of the trees were I have no doubt useful to the soil—they invigorated the tree, but they do not kill worms.

Mr. Wakeman—There may be some ingredient in certain soils, which mixed with soot, ashes, or lime, may be disagreeable to the worm. At all events, we are looking for useful results in all our inquiries. Contradiction is itself often highly useful, in bringing out the truth which we desire.

Chairman—I have adopted the following plan for my peach trees, during the last four or five years. I bound a piece of sheet lead, about six or seven inches wide, around the bottoms of the trees—putting the lower edge of the lead about an inch in the ground. I then filled the space between the tree and the lead with anthracite or wood ashes—or with sand. My trees so treated are healthy and bear well.

Col. Travers—Mr. Woolsey put wooden boxes around the roots of his peach trees and filled the space between the box and tree with charcoal—these trees he says, lived twenty years.

Chairman—Mr. Vose takes tarred paper, puts it around the tree, six, eight, or ten inches above the ground—takes it off in the autumn, he also gives his trees special attention, his peaches are excellent. I applied the lead plan to at least 40 of my peach trees.

Mr. Townsend of Astoria—Being on a visit to a friend in Norfolk street in this city, last summer, I was struck with the fine healthy look of a peach tree in the yard; on enquiry, the lady of the house told me, that every spring she poured a tea-kettle of hot water upon the trunk of the tree, which ran down to the ground. This had been done for fifteen years, and the fruit was always good.

Col. Clark—I have no doubt that lime in the boxes would have a good effect, when moistened it is powerful enough to affect the hand, and will destroy insects.

Ethan Campbell—Lime would prevent the approach of insects, I apprehend, and prevent them from depositing their eggs. I recommend a sprinkling of lime once a week around the roots of peach trees from the beginning of April.

Oliver Smith—Those insects which injure fruit deposit their eggs in the fruit itself.—Lime does not reach or prevent that. When the insect is hatched, it then descends the tree and enters the ground.

Col. Clark—The Curculio preys on pear, plum and some others, but does not touch the peach. The worm which destroys enters at the bottom of the peach trees and bores between the bark and the wood.—*N. Y. Farmer and Mechanic.*

From the American Agriculturist.

Culture of Tobacco.

The growing of tobacco is becoming an important business in the valley of the Connecticut, and yields a better return to the farmer on rich land, than almost any other crop. This crop was greatly increased the last season, and I think I do not exaggerate, when I estimate the amount grown in the towns bordering on the Connecticut, between Hartford and Northampton, from 1,500 to 2,000 tons. The price, the last season, for large growth, and in good condition, was eight cents per pound. We have two varieties—the narrow, and the broad leaf. The latter is the most productive, and sells in market much more readily than the former.

Soil Preparation and Sowing.—We select for our tobacco plants a rich, moist (but not wet) spot, and sow the seed as early in April as the ground can be prepared for it. Our beds are well manured, made mellow and fine, and the seed should be sowed at the rate of one table-spoonful to the square rod, before the earth gets dry; after this it is raked so that the dirt may stick close to the seed. It should not be covered, but let a man go on and tread the surface of the bed as hard a possible. The bed must be kept free from weeds. The plants should get leaves two or three inches long before being transplanted. They grow faster in the beds at first than in the field, and are less exposed to the cut worm.

Transplanting.—We commence transplanting the fore part of June, and often set out the plants as late as the 20th or 25th. The ground should be made mellow and level. The broad leaf plants should be set in the rows two and a half feet distant from each other, and the rows be three feet four inches apart. If it rains at the time of setting, we take advantage of it, and get out as many as possible. If not, we make

the hills, and pour in to each about half a pint of water, and follow immediately after and set the plants. They will live as well set in this way in sunshine as in the rain.—The ground should be looked over two or three times afterwards, and re-set the vacant plants.

After Culture.—As soon as the plants are well growing, we go through with the cultivator, and again fill up the vacant places. The crop should be hoed three or four times without hilling the plants. When the green worms appear, they must be watched and killed, or they will in a great measure destroy the crop.

Topping.—Commence topping the tobacco when it is in the bloom, and manage to top as much as possible the first time going over, that it may all ripen at once. Leave about twenty leaves to the stalk, and make the field as even on the surface as possible. If you have late plants in consequence of re-setting, break them low, and they will grow faster and ripen sooner for it. The suckers should all be broken off and the plants kept clear of weeds till they are cut.

Cutting and Curing.—We should never cut more than can be hung the same day and next morning, while the dew is on. After cutting, it should lie and wilt on one side, then turn it and wilt the other; then throw it into heaps of six or eight plants each, and let it lie till carted to the sheds, where it is hung with cotton twine on poles twelve feet long, and about twenty plants on each side. It must hang till the stem of the leaf is thoroughly cured to the stalk. It is then taken down in a damp day (to prevent the leaves from crumbling,) and stripped and tied in three small hands, keeping the broken and poor leaves by themselves. It is then packed, and pressed hard with the hands in a double row, with the butts out, and if not sufficiently cured in a few days, it must be shaken up and re-packed, to prevent heating. When fit for market it is brought in large quantities and pressed in boxes containing about four hundred pounds each, and sent to the seaports and shipped to foreign countries.

Value of Poudrette.—I used one barrel of poudrette on my plants while on the bed, leaving a small piece without it. The effect was astonishing. The plants at the time of setting were twice as large where the poudrette was used as where it was not, and and they were not as much attacked by the worms, which is an important consideration. I set the last season about two and a half acres in tobacco, which produced 5,100 lbs. I sold it for $408. P.

South Hadley Falls, Mass.. March 3, 1845.

We had the pleasure of visiting our intelligent correspondent above, last year, and saw his tobacco crop growing. We recently met with an enterprising farmer from Windsor, who estimated the crop grown the past year in the valley of the Connecticut and its vicinity, at 5,000,000 lbs. He said he could get from 12 to 16 cents per lb. for his; and although it was used for a different purpose, he did not know why it was not as good as the Cuba, which sells from 25 to 35 cents per lb. Prime tobacco land rents high at present in the valley of the Connecticut—from $25 to $50 per acre per annum. A rich, friable loamy clay is considered the best soil for this crop, which must be highly manured, and deep and well worked. We think it ought to be subsoil-plowed, and that guano as well as poudrette would be an excellent manure for it. The latter is the most lasting, and is said to keep off the fly. Coarse barn-yard manure makes too rank a growth of stalk and leaf, and injures the quality of the tobacco; whereas, poudrette, guano, and other fine and highly concentrated manures, would add to its aromatic flavor. We should be glad to see carefully conducted experiments made the present season with these manures, on the tobacco crop. The different kinds might be tried side by side on separate rows, with a view of testing which was best for that particular locality and kind of soil. We should be pleased to learn whether the culture of the finest Cuba tobacco has ever been attempted in New England. This is frequently worth from 50 cents to $1 per lb.—*Ed. Agriculturist.*

Early Rising.—Late rising is not the habit of the very highest classes, for royalty itself sets the contrary example; and we have met, before now, princes taking their ride before breakfast at six o'clock. The present king of Hanover we have repeatedly seen out at that time. We have known Lord Brougham, when chancellor, make appointments on matters of business at his private residence for eight o'clock in the morning; his own time of rising being four in summer, and half past six in winter. Supposing that a man rises at six, instead of eight, every morning of his life, he will save, in the course of forty years, twenty nine thousand hours, which is a great accession of available time for study or business despatch; being, in fact a gaining of three years, four months, two weeks, and six days. To any person of foresight, calculation, and industry, this fact will prove a sufficient temptation to practise the healthy and useful habit of early rising. —*Chambers' Journal.*

From Hovey's Magazine of Horticulture.

On the Production of hardy Seedling Grapes by hybridizing the Native with the Foreign Grape.

It is abundantly manifest that horticulture is attracting just now a very large share of public attention. Experimental attempts have been at various times made, to improve or modify the character or quality of fruits and flowers; in some instances with a full or limited measure of success, in others with no good results whatever. It is highly interesting, even though we fail, to endeavour to make good *better*, nor can there be presented to the mind of an intelligent man, a subject more worthy of a liberal portion of his attention, than the probability of succeeding by *hybridization*, in producing a fruit superior to its parents, and at the same time so changed in its character, as to be hardy, where it has been previously known only as partially so, or not at all.

For how long a time has there been an anxiety to possess a grape as vigorous as the Isabella, of as free growth in the open air, requiring as little care,—some think they require *very little*—and as good a bearer, with the additional quality of the fruit's being as far superior to that variety as the Black Hamburgh is acknowledged to be. Frequently have we been told that the desideratum has been obtained, and under a host of *names* have these *new* sorts been offered to us with not one quality to recommend them but the change of appellation; it has been "Napoleon," alias "Isabella," and every thing else to no purpose, but that of falling back "*ab origine*" and taking a fresh start.

Where an attempt is made to produce a vine of the kind so much wanted, and ripening a superior bunch of fruit, something more must be done than merely *changing names*, however high sounding these may be. Our operations must be conducted upon correct principles, under favourable circumstances, and with every possible care. We must clearly understand what it is we are aiming at, and bring the matter to a reasonably satisfactory conclusion, ere we may indulge the hope of ultimate success, or lead others to believe that we have accomplished any thing more than those who have preceded us.

With every facility for bringing about a most important result, we have succeeded in fertilizing the Black Hamburgh with the pollen of the Isabella, and so guarding our operations from first to last, as to obviate the possibility of any mistake. The bunch of grapes ripened to perfection, were of great size, and most delicious flavour. From the seed *thus* obtained, we have now about a dozen plants in perfect health, and remarkably handsome looking. The leaves are beautifully shaped, of a bright green, and *very deeply serrated*. Many of our friends have seen them, and by several they have been immediately noticed as peculiar in their appearance. To say at this stage of our proceedings what *may* be the properties of these vines as fruiting plants cannot be deemed too much in advance of a fair calculation, based upon the known qualities of their parents, the one for its hardiness and strong growth, the other for its superb fruit. They may, and in all probability will be, as good as the Isabella for such qualities as are in its favour, and bear fruit, though perhaps not fully equal to the Hamburgh, yet as far superior to the male parent, as that is to the common Fox grape. Should this turn out to be so—and we think it will—the point at which we have been long aiming will have been attained, and a vine possessing every desirable quality put within the reach of all for general cultivation.

We shall take care to ascertain all particulars as soon as practicable, and make them known when we are satisfied fully of their perfect correctness; not speculating carelessly with the credulity of our co-labourers or the public, but giving them the true result whatever that may be.

W. W. V.

Flushing, L. I., March 3rd, 1845.

Premium on Diseases of Cattle.

Read before the Farmers' Club May 6th, and communicated to the Farmer and Mechanic.

Paris, February, 1845.

The Minister of Agriculture has placed at the disposal of the Royal and Central Society, the sum of 1500 francs, ($300,) as a premium for the author of the best written or printed memoir upon the typhus of cattle and other domestic animals. The Society, on the report of a special committee, has adopted the following programme:

Art. 1. The memoir must contain the explanation of the characteristic symptoms which at the beginning distinguish the typhus from the other diseases of cattle, and a description of the modifications which those symptoms undergo in the three periods of the attack, the greatest extent and the decline of the disease, and finally the various modes of treatment for the disease, and the results.

Art. 2. And very particularly the *lesions*, on opening the body, the alterations of the

liquids during life and after death, the nature of the disease, and its nosological classification.

Art. 3. The probable causes of the disease, its mode of appearance in one district, its contagion, modes of communication to others, and all the circumstances which seem to give the disease intensity. Among the predisposing and predominant causes, and those causes which may be considered generating, and those which extend the disease, the author ought to search for those which relate to our climate, to modes of keeping, to feeding, and also whether peculiar breeds are peculiarly liable to the disease; and finally, whether by reason of all these causes or any of them, it is to be feared that this disease may show itself spontaneously in France.

Art. 4. The difference of symptoms (diagnosis) between this disease and the other known diseases of cattle, or what analogy there is between them, and the probable cause or causes of the disease.

Art. 5. The relations—if there are any—between this disease and other diseases of cattle, sheep, horses and hogs; and more particularly as relates to the causes of the diseases.

Art. 6. To point out the best measures to be taken relative to the meat of such diseased animals as have been butchered, or which have died a natural death.

Art. 7. The best means to be used by farmers to preserve their animals, when the disease is spontaneous and *enzootic*,—in the animal itself—and above all where it does not show itself as by contagion; and finally, those means which have or which seem to have had the most success—1st, in preserving a threatened district from it; 2nd, in circumscribing and confining the disease in an affected district; 3d, to extinguish it where it does exist; 4th, to prevent its renewal, and at the same time to disinfect not only the particular localities where it has been, but also all the utensils made use of by the diseased animals.

The Society will decree the prize, if opportunity then presents, in the public sitting of April, 1846. If any memoir is not adjudged worthy of the full prize, a part of it will be decreed, or medals of gold to such authors as shall have resolved some of the questions here put, particularly those comprised in Articles 2, 3, 4, 5 and 7. The Society must own all the memoirs presented to it, and dispose of them as may seem proper.—*Translated by H. Meigs, Esq.*

Great alarm exists in Europe as to the progress of this disease; regulations in the nature of quarantine are in contemplation, to arrest it; and it is proper that we should prepare our own country on this interesting subject.

For the Farmers' Cabinet.

Russian Imperial Economical Society.

The following letter has been kindly handed for publication in the Cabinet by Aaron Clement, the Recording Secretary, of our Agricultural Society. Such communications, leading to an interchange of opinions and kindly offices, are in a national point of view, highly interesting. With an Empire spreading over so vast an extent of territory, and a corresponding population, we cannot but give to Russian agriculture our best wishes for its improvement. If more than these can be made available, we are sure the Philadelphia Agricultural Society will embrace with alacrity, every opportunity to do so.—Ed.

Perpetual Secretary's Office, St. Petersburg, January 29th, 1845.

To the State Agricultural Society of Pennsylvania, in the U. S. of America:

The Russian Imperial Economical Society, established in the year 1765, having for its object the improvement of different branches of rural economy, desires to enter into correspondence with your honorable Society for mutual exchange of different experiments, observations and discoveries, in order to promote the national welfare of both countries. The Almighty having blessed the United States and Russia with immense tracts of fertile lands; has pointed out to us that the principal occupations of both countries should consist in rural pursuits. Therefore we feel real sympathy towards your great nation; and the more so, because our Society has the honor of counting among its active and useful members one of your distinguished citizens, the Honorable Col. Todd, the representative of your country in Russia.

Our Economical Society has for a long time expressed the wish of communicating with Economical Societies in other countries; but as our annual accounts of proceedings and the transactions of our Society are published in the Russian Language, which is very little known abroad, so the Society commenced publishing extracts of the annual reports, and of the transactions in the German language, which is generally understood in civilized countries; and the Society conceiving that these publications would be the means of communication between the two countries, has therefore charged me, as its perpetual Secretary to forward to you a copy of the said publication; and I take this opportunity to add that I am very happy to be the organ of express-

ing the sentiments of the Society towards your great nation.

Alexander Djunkovsky,

Knight and perpetual Secretary of the Society, actual Counsellor of State of the Emperor of Russia.

For the Farmers' Cabinet.

Disease of the Potatoe.

Mr. Editor:—In perusing the last number of your paper, I noticed an article over the signature of Chemico; purporting to give a correct reason for the cause of the disease in potatoes—and, also proposing a remedy.

It is a well known fact, that the disease in potatoes is of recent origin,* and, it is also well known, that the soil in which they grow, contains the same quantity of alkali, and no less nitrogen than formerly. If a want of the alkalies, or a redundant supply of "nitrogenous matter," can be the only cause, then, the disease might be confined to one district alone; but, observation, reports, and evidences from well authenticated sources, affirm that the whole continent is alike affected: even in Europe the potatoes have not escaped the contagion. Lands, which now yield but a poor and sickly crop of potatoes, a few years ago brought an abundant harvest. It has, furthermore, been ascertained, by men of high professional repute, that potatoes contain properties capable of accumulating the alkalies, and repelling a redundancy of nitrogen. Hence, it is easy to be seen, that they are formed in such a peculiar way, as to reject and throw off every substance detrimental to a vigorous and healthy growth.

Where, then, lies the true cause? It must be some uninvestigated agent, so powerful in its nature, as to destroy the capability of the repulsive properties, and so poisonous in its effects, as to paralize the cellular organs, so as to prevent their performing their allotted task. Now, whatever may be the cause of the disease, it certainly cannot be the want, or the redundancy of the above mentioned properties, to which Chemico attributes it.

I have noticed, particularly, that the first indications of the disease, commence in the stalk; and, by an examination, I have found, that the potatoes are fit for all culinary purposes, even when the stalk assumes a dark, rotten color, and emits a putrid odour. As the disease follows down the stalk, the potatoe is at length affected, its health destroyed, and it becomes a useless vegetable. I have heard learned men say, it is caused by an unusually large quantity of caloric coming in collision with a sudden and severe shower of rain; thereby creating a large quantity of hydrogen and sulphuric acid gas. How far these doctrines are correct, I will not vouch—but suffice it to say, they seem to me plausible,

A Farmer.

Honesdale, Pa., June 2.

* The recent origin of this disease, is we think doubtful—see the translation of a paper in the 7th No. of current vol. of Cabinet, page 212.—Ed.

Bees.

I have often heard complaints of bees going off soon after being hived, and the owners could assign no reason. I have lost several swarms in that way, but I have learned how to prevent it.

In the first place, never put a swarm of bees into a hive made of green boards, nor until it is well seasoned; nor into a hive in which there is any foul or musty smell. The boards of which it is made should be clean. Do not plane the boards for the inside of the hive, unless to get off some extraordinary roughness; and then do not make them smooth. After hiving the swarm, raise the hive a little, by putting under the bottom small sticks, say as large as your little finger, to give them plenty of air. Then procure a quantity of green bushes, and lay them over and around the hive, especially on the sunny side. Then take half a pail full of cold water, and spatter it all over and around the hive, till the bushes are quite wet. The bees will collect in the top of the hive, and remain quiet. I have practiced this method for many years, and have never lost a swarm since I commenced it. It is not necessary to rub the inside of the hive with any kinds of herbs or leaves—it would do more hurt than good. I commonly throw, say a pint of water, into a hive, so as just to wet the upper part, and sprinkle a little salt into it. This I do to amuse the bees for the time being, and to make them more contented.

It is not necessary to make any noise to settle the swarm when they come out. They will settle of their own accord. But it is prudent to hive them as soon as convenient. —*Michigan Farmer.*

Gypsum in South Carolina.—The Southern Agriculturist says "a specimen of Gypsum was lately sent to Dr. Gibbes of Columbia, from Mr. Ingraham's on Cooper river. It resembles the gypsum of the Paris basin, which is extensively quarried for the manufacture of plaster of Paris, and as the geological position is the same, it is hoped it will be found in abundance."

Horticulture.

If the admiration of the beautiful things of nature has a tendency to soften and refine the character, the culture of them has a still more powerful and abiding influence. It takes the form of an affection; the seed which we have nursed, the tree of our planting, under whose shade we sit with delight, are to us as living, loving friends. In proportion to the care we have bestowed on them, is the warmth of our regard. They are also gentle and persuasive teachers of His goodness, who causeth the sun to shine, and the dew to distil; who forgets not the tender buried vine amid the snows and ice of winter, but bringeth forth the root long hidden from the eye of man, into vernal splendor or autumnal fruitage.

The lessons learned among the works of nature are of peculiar value in the present age. The restlessness and din of the rail-road principle which pervade its operations, and the spirit of accumulation which threatens to corrode every generous sensibility, are modified by the sweet friendship of the quiet plants. The toil, the hurry, the speculation, the sudden reverses which mark our own times, beyond any which have preceded them, render it particularly salutary for us to heed the admonition of our Saviour, and take instruction from the lilies of the field, those peaceful denizens of the bounty of Heaven.

Horticulture has been pronounced by medical men, as salutary to health and to cheerfulness of spirits; and it would seem that this theory might be sustained by the happy countenances of those who use it as a relaxation from the excitement of business, or the exhaustion of study. And if he, who devotes his leisure to the culture of the works of nature, benefits himself—he who beautifies a garden for the eye of the community, is surely a public benefactor. He instils into the bosom of the man of the world, panting with the gold fever—gentle thoughts, which do good like a medicine. He cheers the desponding invalid, and makes the eye of a child brighten with a more intense happiness. He furnishes pure aliment for that taste which refines character and multiplies simple pleasures. To those who earn their substance by labouring on his grounds, he stands in the light of a benefactor. The kind of industry which he promotes, is favourable to simplicity and virtue.—*L. H. Sigourney.*

Lime that is the most profitable for making mortar, is the most valuable for agricultural purposes.

Butter.

There are few departments of rural industry in which there is so much room for improvement, as in the business of *converting milk into butter.* This will be admitted, readily, by all who reflect on the very small proportion, which really pure, well-flavoured butter bears, to the whole quantity exposed for sale in the common market, or to that which is produced in the country.

The defective quality of butter arises no less from want of care and skill in the management of the milk—probably much more from that cause, than from any effect upon the milk, resulting from the difference in the pasture and food of the cow; although the latter has, doubtless, a powerful influence. So sensible are they of this influence in Scotland, that we observe among other curious objects, never thought of in this country, a premium has been offered there for the best essay *on the influence of food on milk and butter.* We cannot but suppose that the superiority of the butter in the Philadelphia market, arises, in a great degree, from the nature of the pasturage; consisting of long established "English grass" meadows. He who will take the trouble to make the calculation, will be struck with the increase of national wealth, which would accrue from an improvement in the quality of our butter, from whatever cause, that should add a few cents to its price, without saying anything about the increase of the quantity which could be easily obtained by more careful milking, and a better system of dairy management.—*New York Albion.*

Rhubarb or Pie Plant.—This is another highly esteemed esculent for early spring use, and of the easiest possible culture. The plants continue many years in full bearing, and occupy very little room—a small number being sufficient for a family. The seeds may be sown any time in spring, and will make good strong plants in one year; when they should be transplanted to a rich deep border, or any convenient spot—placing them three or four feet apart. The stalks should not be cut until the plants are at least two years old.—*Ohio Cultivator.*

Wild Birds should be sent to market in their feathers, and they should never be drawn if the weather is cool. No salt should ever be put upon any kind of wild game until it is cooking. It is the practice of all sportsmen to hang their birds up in their feathers and undrawn, and never to clean them until wanted for the gridiron.

Economy.

The following *lecture* is copied from the *Southern Planter*, and though it was intended, and may seem more particularly adapted to the meridian of Richmond, many a one of us on this side of "Mason and Dixon's line," may draw, if we will, a good lesson from it.—Ed.

Perhaps the most marked trait in the character of the Southern farmer is the want of economy. Many reasons have been assigned for the depressed state of agriculture in the South. That our country enjoys the most unrivalled advantages for the prosecution of agricultural pursuits, is undenied, and undeniable: that the improvements in this art have not kept even pace with other departments of science, is universally admitted. The inquiring mind, which seeks for reasons for every fact, has been engaged in the explanation of this phenomenon. Some have declared that the light of science was wanting to the pursuit of agriculture; some have attributed the stationary character of this pursuit to the existence of a slave population, &c., &c.

That the science of agriculture is in its nature one of the most complex and intricate, a little consideration must satisfy the most careless observer; and the fact that a *season* is required to test an experiment, proves, that experience, which is the foundation of true knowledge, is more difficult of attainment in this than in any other art. But this is true of agriculture everywhere, and only accounts for the retarded progress of the art when considered in relation to the world generally. It has been asserted, however, that in the Southern part of the United States, the portion of the whole globe perhaps best adapted to the pursuit of agriculture, improvement languishes most. Whilst we are not prepared to admit this charge to its fullest extent, we will confess that agricultural improvements encounter peculiar difficulties in their progress through the Southern States; not, as some imagine, for want of knowledge of the scientific discoveries in agriculture, for they, we believe, in truth, are very few, and are as well known to the enlightened farmers of the South as to any other portion of this Union. But the fact is, that amongst the highly favoured, wealthy farmers of the South, a state of financial embarrassment prevails, that offers an insuperable bar to agricultural improvement. It is not uncommon to find a Southern farmer with real estate and negroes worth fifty thousand dollars, sadly embarrassed with a debt of twenty thousand. Our Northern friends will wonder how a man with fifty thousand dollars worth of property can be seriously embarrassed with a debt of twenty thousand, but a Southern man will readily understand the feelings and sentiments which make it so distasteful to part with that peculiar kind of property in which a large portion of his funds is vested. But unless he sell his slaves, the farmer cannot part with an acre of his ground, which is, in his opinion, hardly sufficient to keep them employed. Thus it is, that the debt is not only retained, but perhaps from the same cause from which it originated, it is increased, and to provide for the interest alone, absorbs all the funds and much of the time of the improvident farmer. It were bootless to look to the origin of this state of things; it could perhaps be traced to the fact of expensive habits derived from a wealthy ancestry, whilst the enormous profits that justified them in former years, has altogether ceased in later times; for whilst there is no difficulty in expanding your expenses in prosperity, the contraction in adversity is not quite so easy. Be that as it may, the fact of a very general pecuniary embarrassment amongst even the wealthy portion of the agricultural community in the South, is not to be denied; and this circumstance alone, when fully considered, will be found sufficient to account for the retarded state of agricultural improvement in the South. Money is the great lever with which the world is both raised and lowered. Suggest to a farmer a system of cultivation by which his exhausted fields may be rested and restored; he is fully aware of it, but he tells you that the corn from that field is devoted to the liquidation of a debt already incurred; prove to him that if he is deprived of this resource for a year or two, it will only be to double the product in after time; he knows it; but even with the yield of that field, he fears that his income for the year will fall short of his expenses. He hopes that it will be better after a while, but *this* year, he must "make every thing tell." Show him a valuable labour-saving machine, an investment in which would be equivalent to an interest of fifty per cent., his answer is, "my dear sir, I am a borrower, not an invester of money;" and so he is, poor fellow. It is not the want of scientific knowledge that keeps that man's fields poor, and induces the most skinning system of cultivation, but it is the want of pecuniary means.

What is the remedy for this state of things? We answer emphatically, *retrenchment* and *economy*. Begin with yourself; curtail your individual expenses, go through every member of your household, cut down and pare off everywhere; teach your children that

the conveniences and elegances purchased of the milliner and the mercer, may be substituted, in a great measure, by their own handicraft. Your own part is nothing, but to deprive those you love of that to which they have been accustomed, is, we know, a bitter pill; but it must be taken. In the great fall of agricultural products, there is no help for it.

Do not tell us that you already practise economy to its fullest extent. My dear sir, you don't begin to know the meaning of the word. What is your income? About $1,500 —well, go to the North and see how a farmer with an income of $2,000 lives, compare your expenditures with his, and then see if you know anything about economy. And whilst you are there, observe the difference between his case and yours—he probably has at the end of the year eight hundred or a thousand dollars to devote to the improvement of his land, which improvement probably secures him a surplus of twelve or fifteen hundred dollars at the end of the next year, and so he goes on, getting richer and richer, whilst you are getting poorer and poorer. Suppose your situations to be nearly the same in 1845, work this thing out, and see where you will both be in 1855.

There is one point upon which we will take the liberty of giving you the gentlest hint in the world. Be not afraid in this proposed system of reform of any opposition from your wife. Come out like a man and explain to her the necessity for it; women are always more frugal and self-denying than men; we will answer for *her*.

It is astonishing how not only the *price*, but the *real value* of land, is affected by the economical habits of a neighbourhood. We were sensibly struck with this fact in a conversation last summer with an intelligent gentleman from Rockingham. We were both at the time in the county of Albemarle, and something was said about the high price for which land was sold in that county. The Rockingham gentleman remarked, that similar land in his own county, not at all more productive, farther from market, would sell for one-third more money. He was then asked, why he did not sell in Rockingham and purchase in Albemarle. He replied, because he found, upon a fair calculation, that the land was cheaper in Rockingham than in Albemarle; that is, that owing to the different habits and customs of the people, he could lay up more money from an investment in the one than the other. This is sound reasoning, and it is the reasoning upon which men act. This is the reasoning by which men are induced to give a hundred dollars an acre for lands in New York or Pennsylvania, whilst lands equally productive can be purchased in Virginia for half the money.

From the Cincinnati Farmer and Gardener.

Culture of the Grape.

As public attention at the present time seems to be somewhat enlisted in the culture of the grape, and as its success is pretty well established in the vicinity of Cincinnati, where it is rapidly extending, a brief sketch of the most approved mode of establishing a vineyard, may be acceptable to some of your readers.

The first step, then, is the preparation of the ground. The sides or tops of limestone hills are generally chosen for the location, where the water runs off readily. South and south-eastern exposures are the best in this climate. Three modes of preparing the ground are usually adopted here. The first consists merely in deep ploughing, with a common plough, as for potatoes, and making the surface fine and mellow with the harrow. The second method goes one step further, and a second furrow is cut in the bottom of the first; in the bottom of the second furrow a subsoil plough is run, which breaks the ground altogether to the depth of sixteen or eighteen inches; it is then harrowed and prepared as in the first. The third method is, by thoroughly trenching with the spade to the depth of not less than two feet. If the hill side is steep, say at an elevation of twenty or thirty degrees with the horizon, terraces are also raised from two to four feet in height, and extending up the hill from twenty to sixty feet each, according to the acclivity of the surface. By this last mode, the top soil is all thrown into the bottom of the trenches, and the subsoil, which is generally clayey, thrown upon the top, and left sufficiently smooth for planting. Where stones are found in the soil, they are thrown out on the surface, as the trenching progresses, up the hill; and, if in sufficient quantity, are laid up in walls to support the terraces. The terraces are made to run horizontally along the hill-side, or nearly so, with an open ditch for a drain at the upper edge of each terrace, and a similar horizontal ditch as often as once in eighty or a hundred feet, where the ground is not terraced. These drains should lead to the lowest point in the vineyard, where a suitable drain should be constructed down the hill, to carry off the surplus water in heavy showers, and may be covered like a culvert, or left open. In each case, the vines are planted in rows, four feet apart, if to be

worked with the hoe and spade, and from five to six feet, if to be worked with the plough or cultivator, and should always run horizontally with the terraces and drains. The distance between the vines in the row varies from two and a half to four feet, according to the mode of training which is to be adopted.

Cuttings of the vine, with three or four eyes, are sometimes planted, at proper distances, in the vineyard; but the usual practice is, to plant them first in a nursery, in rows, about eighteen inches apart, and from four to six in a row, to strike root; here they are to be well cultivated, and allowed to grow one or two years, when they are taken up in the spring and planted out in the vineyard. The fourth year from the cuttings, that is, after they have had three summers' growth, two in the nursery and one in the vineyard, they may be allowed to bear a full crop, or nearly as much as they ever should be allowed to bear thereafter, which is about one-fourth of a peck of grapes to each vine. One acre of ground, planted six feet by three apart, will contain about twenty-four hundred vines, consequently will yield about one hundred and fifty bushels of well assorted grapes, which will make three hundred gallons of wine, sometimes a little more. An acre of good ground, well trenched, and planted with Catawba vines, after it has acquired six or seven years growth, may be made to yield a much greater quantity; and some small vineyards below Cincinnati, on the hills of the Ohio river, have produced at the rate of eight hundred gallons per acre, but the vines were planted four feet each way, making twenty-six hundred and forty vines to the acre; but the proprietor admitted that his vines were injured by overbearing, and that his wine was inferior in quality when allowed to produce that quantity.

I give three hundred gallons as the full average quantity of wine made to the acre in the neighbourhood of Cincinnati; of course, much variation will depend upon the manner of establishing a vineyard, and its subsequent treatment.

The comparative merits of the different modes of preparing the ground for a vineyard, cannot, as yet, be settled by experience in this part of the country, as the oldest vineyard, I believe has not been established more than twelve or thirteen years. Vineyards planted at Vevay, in Ind'a, by the Swiss, merely on deeply ploughed ground, failed in fifteen years. When the ground is ploughed eighteen inches deep, it may bear tolerably well for twenty years; but a vineyard planted on ground well trenched two feet deep, and properly drained and cultivated, may be expected to last fifty or one hundred years, perhaps more. The crop also, is much more certain when the ground is well trenched, not being so liable to suffer from droughts or rainy seasons.

The advantages of deep trenching have become so apparent to those who have had the most experience, that nearly all who can afford it, are now preparing their ground in this manner, although done at an expense varying from eighty to one hundred and twenty-five dollars per acre, according to the character of the ground. This, with the addition of twenty-four hundred vines, at sixty dollars per thousand for one year old vines, the customary price in this market, with the cost of planting, will make the expense of one acre, exclusive of land, stakes, &c., at least three hundred dollars, or without trenching about two hundred.

S. Mosher.

For the Farmers' Cabinet.

Industry Needed.

"The author of a series of essays at the south," says the South Western Farmer, published in Mississippi, "is sounding an alarm among the people of that region, upon the state of public feeling in that section of the country in relation to *industry*." In the course of one of his essays he says:

"My recent visit to the northern states has fully satisfied me, that the true secret of our difficulties lies in the want of energy on the part of our capitalists, and ignorance and laziness on the part of those who *ought* to labor. We need never look for thrift while we permit our immense timber forests, granite quarries and mines, to lie idle, and supply ourselves with hewn granite, pine boards, laths, and shingles, &c., furnished by the lazy dogs at the north—ah, worse than this, we see our back country farmers, many of whom are too lazy to mend a broken gate, or repair the fences, to protect their crop from the neighboring stock, actually supplied with their axe, hoe, and broom-handles, pitchforks, rakes, &c., by the *indolent* mountaineers of New Hampshire and Massachusetts. The time was when every old woman in the country had her gourd, from which the country gardens were supplied with seeds. We now find it more convenient to permit this duty to devolve on our careful friends, the Yankees. Even our boat-oars and handspikes for rolling logs, are furnished ready made, to our hand, and what gimcrack can possibly be invented of which we are not the purchasers? These are the drains which are impoverishing the south; these are the true

sources of all our difficulties. Need I add, to further exemplify our excessive indolence, that the Charleston market is supplied with fish and wild game by northern men, who come out here as regularly as the winter comes for this purpose, from our own waters and forests, and often realize, in the course of one winter, a sufficiency to purchase a small farm in New England."

Now I have been not a little amused with the home truths expressed in this rather rough specimen of *gentle* reproof; and I have suspected it would do no hurt if they were thrown before all the readers of the Cabinet, which I know circulates south as well as in other directions. It is more than probable too, that many a one of your northern farmers might take a hint from it in relation to the close employment of his own time, and that of his boys. The great object of the farmer, it is allowed even here, should be to lay out as little money as possible, for any thing he may want. Of course an employment of all the leisure moments and rainy days in making or mending the tools will supply him, not only with hoe handles and ax helves, but also with many far more important items among the expensive implements needed in the prosecution of his business. Furthermore, the effect produced in making his boys handy and expert in the use of tools is of great importance.

I have been much pleased with the communication of Miquon in the last number; and consider that single article alone, of more worth several times over, than the subscription price of the Cabinet for a year.

L. P.

Fredericksburg, Va. 1845.

For the Farmers' Cabinet.

Destruction of Sheep by Dogs.

To the Editor.—As the manufacturing establishments of the country are rapidly increasing, and the demand for native productions appearing to keep pace therewith, it behoves the agricultural community, to do all in their power to produce the necessary raw material requisite to meet the demand. Most parts of this state are well adapted to the keeping of sheep for the growth of wool, as well as for the supply of mutton and lamb for the markets. Many farmers are desirous of keeping those useful animals, but are deterred by the fear of having their flocks destroyed by some of the great number of half starved and worthless dogs that infest their neighbourhoods. And such dogs are generally owned by persons having little or no use for them, and who allow them to range over the country regardless of the mischief they may do: the consequence is that many valuable sheep are destroyed annually, one of which would be of more value to the country than half of the dogs in a township. I very recently witnessed the most distressing sight on a farm of a friend in Chester county, where some twenty sheep, from the beautiful imported Leicester, to the valuable native stock, were killed or mangled in the most shocking manner. It was a sight distressing to witness, and no redress could be had, as there is no tax on dogs in that neighbourhood.

It is quite time for the owners of flocks to take this affair earnestly in hand. If a tax cannot be levied on all dogs sufficient to pay for the injury done to sheep by them, or the owners of such offenders made responsible for the mischief they do, the farmers owning sheep should at once come to the determination to kill all dogs found running at large on their premises; for the question to be decided appears to be, whether the most usueful and valuable animals in the country shall be destroyed by the most worthless, or otherwise.

C.

Philadelphia county, May 30th, 1845.

The subject spoken of above, is seasonably introduced. We have always believed that there is in this vicinity, scarcely an article of luxury that could more legitimately be subjected to a *high tax*, than dogs. We are no friend to their extermination; for we sometimes come across individuals among them, who manifest a nobility that might put many an "unfeathered biped" to the blush. But they are in the general, useless to the community—they are even worse than useless—they prowl upon it, and it ought to be reimbursed for that prowling, by those who keep them. And certainly there should be no doubt on the subject of holding the owners of dogs responsible for particular damages committed by them, when they can be identified. It is excessively annoying, as we well know by experience, to have a fine flock of sheep, which you have perhaps been for years selecting, and raising to your mind, killed, and wounded and worried by your neighbours worthless curs. It is not merely the killed understood by sheep masters, that even those which may not be touched by the dog, are nevertheless so and the wounded that constitute the loss—it is well frightened and worried, that a flock hardly ever recovers from it.—Ed.

To dry your Boots.—If you wish, after tramping through snow and water all day, to have a pair of dry boots to put on the next morning—instead of leaving them by the stove to burn or half dry—hang them up near the ceiling of the room where the warm air is.

A hog upon trust, grunts till he is paid for.

Farmers' Club of Newcastle Co., Del.

This valuable association is still kept up, we learn with much spirit by its members; and this is now the third year of its existence. It is composed of twelve members, who meet alternately at the houses of each other, every month in the year, when they review the farm, stock and implements of each other, dine together, and after dinner generally some interesting agricultural essay is read. Conversations and discussions connected with their avocations always ensue. The latest improvements in implements, tools and machinery are examined and tested; new and rare seeds distributed; and agricultural books, journals, &c., exchanged or distributed. Thus is the run and account current of modern agriculture kept by them, and the *first Tuesday* of each month agreeably and profitably spent, by a portion of our farmers of this vicinity. Why has not their laudable example been followed by each neighbourhood or hundred of the county? The entertainments of the first Tuesday of the month are not confined to the members, for frequently distinguished strangers, and farmers from the county and State are to be seen at their board, and few meetings pass without some inventor or improver of agricultural machinery being present, and oftentimes with his invention for examination and trial. Being a guest at *Woodside*, the residence of Mr. Samuel Canby, on Tuesday last, we were forcibly struck with the practical utility and social character of this Club. In the morning the improved and improving fields of the proprietor were passed over,—his fine stock, barn, and tasteful grounds examined. After dinner the merits of "Guano" and other manures were discussed. The importance of agricultural chemistry concurred in, and the knowledge displayed evinced that Liebig and Johnston had not written in vain. A general interchange of opinions of the different growing crops ensued, from which we learned that the wheat was universally fine and promising from this vicinity as far South as the James' river bottoms. In this county it was considered that the peaches might reach a half crop, and that there was a fine prospect for apples and other minor fruits. The company then adjourned to witness the operation of a drilling machine, made by Mr. John Groundsell, of Chester, Pa, made after a pattern of one imported sometime since by Mr. Francis Sawden, a member of the Club. This drill is intended for seeding with great accuracy wheat and oats, and can also be arranged for dropping and covering corn. It is worked by one horse, weighs from 1200 to 1500 pounds, and costs, all complete, about $100. So important is drill husbandry being viewed by this Club, that several use it altogether, and others ordered this machine. Its advantages were stated to be, economy in the use of seed, great certainty in seeding the ground regularly; despatch in pitching the crops—one hand putting in about twenty acres a day. It has connected with it in front a manure or "management box," for applying guano, ashes, plaster, poudrette, or woodearth, along with the seed. Such have been the improvements in the drill in England and the United States, that comparatively hilly and uneven ground can be seeded with it. The practical working of this machine elicited the praise of all present, and we would earnestly call the attention of all our farmers to it:—of what immense importance and value such a machine would be upon the large wheat and corn farms of the South, where hundreds of acres are hand-sown. Let them look to it. Already in Delaware, Maryland and Virginia, are the reaping machines of Hussey, and McCormick, well known and duly appreciated;—and by the by, at the dinner a drawing of Hussey's improved horse power reaping machine was exhibited by Major John Jones, of St. Georges hundred, much improved from his old pattern; and the Club invited to witness its operation in June among the fine wheat fields of that rich and improving hundred. The invention of another horse power reaping machine was described by one of the company as forthcoming from a Mr. Gallaher, of Jefferson co., Va., said to be very simple and efficient, and highly spoken of by those who have examined it. Thus with the use of the drill and the reaping machine,—the recent application of guano, a natural and concentrated manure; also the artificial manures, such as poudrette, alkaline salts, &c., with the general taste and diffusion of chemical knowledge applied to agriculture, what may we not expect in the course of a few years in the way of crops, from our mother earth, and of profits to our worthy farmers. Let, therefore, these Clubs be multiplied throughout the land—the new impetus given by science and these implements to agriculture, increase its votaries everywhere, and peace and plenty must await all classes in a country so largely agricultural as ours.—*Delaware Journal.*

A plate or two of honey and water placed near to the bee-hive in the evening, during the active season of the bee-moth, it is said will serve as a trap to this annoying insect, and many may be thus destroyed.

For the Farmers' Cabinet.

Remarkable Discovery—Electricity and Agriculture.

To the Editor.—Her Britanic Majesty's Consul in this city, placed in my hands yesterday, a copy of the London Economist, for the 26th of last month, a quarto sheet of 23 pages, and drew my attention to the interesting article in it "on the influence of electricity on agriculture," an abstract of which I have the pleasure to send for the Farmers' Cabinet, with the hope that the experiment detailed will be repeated by some American farmer, and the result given to our countrymen through the medium of your excellent work. Science is at last made to aid the operations of the practical farmer, but in no instance has this aid been so truly scientific as in the experiment to be related. It has called to my recollection a fact communicated to me more than forty years since, by a very intelligent lady of this city, viz: the very rapid growth and flourishing state of a grape vine, which was planted in the immediate vicinity of the lightning rod attached to her house, to which circumstance she ascribed the vigour of the vine.

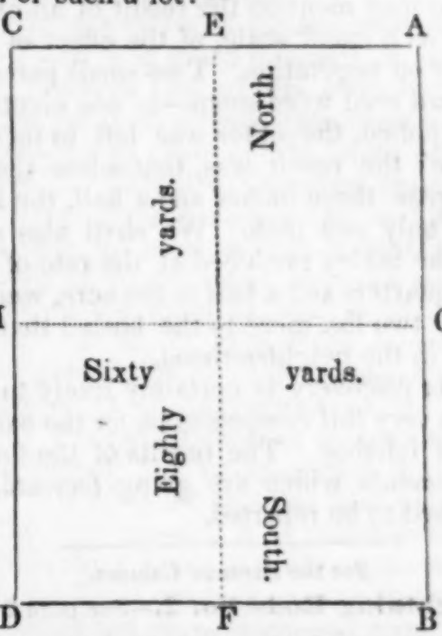
With best wishes, I remain very respectfully, James Mease.

Philadelphia, May 27th, 1845.

Of all the uses to which this new and marvellous agent has been applied, none promises such remarkable results as its application to agriculture. It is a principle which has been long admitted and understood, that electricity had a considerable effect on vegetation, but it has not been till now that any practical application of that aid, has been attempted. Of late, many experiments have been made, in a manner too, which affords means of judging, not only the comparative result, but comparative cost. And we are bound to say, that they are such, that we look upon this new agent, as one likely, before long, to produce as great a revolution in agriculture, as the inventions of the steam-engine or the spinning-jenny have done in manufactures.

We have before us the result of one experiment on a considerable scale, which, we think, cannot prove otherwise than highly interesting to our readers. It took place in the north of Scotland.

A portion of a field of barley, to which the electric application was made, produced last year at the rate of *thirteen quarters and a half* to the acre, while the surrounding land, similarly treated in other respects, produced the usual quantity of five to six quarters to the acre. The following is a detail of the very simple mode in which the electric fluid is collected and applied to influence the land. A field is divided into oblongs 80 yards long and 60 yards wide, and containing, therefore, just about one acre each. The following is a plan of such a lot:—



At each of the points A, B, C and D, pegs are driven into the ground; the external lines represent strong iron wires, extending from, and fastened to each of the four pegs, and communicating with each other, so as to form an oblong of wire, sunk three inches below the surface; at the points E and F, poles are fixed in the ground 15 feet high; a wire is connected with the cross wire beneath the surface at the point E,—carried up the pole at E, and thence to the pole at F, down which it is conducted and fixed to the cross wire beneath the surface at that point. We must here remark, that the oblong must be so formed, to run north and south, so that the wire passing from E, to F, shall be at right angles with the equator. It is well known that a considerable body of electricity is generated in the atmosphere, and constantly travelling from east to west with the motion of the earth. This electricity is attracted by the wire suspended from E to F and communicated to the wires forming the square under the surface of the ground, from the points A, B, C and D.

It has, however, been suggested to us by a very competent authority, who has at this moment a number of experiments going forward to test this extraordinary new power in a variety of ways, that any quantity of electricity could be generated that might be required, by placing under the ground, at the point G, a bag of charcoal, and plates of zinc at the point H, and connecting the two by a wire passing over two poles similar to those at E and F, and crossing the longitudinal wire passing from those points.

The cost at which this application can be made, is computed at *one pound* sterling per acre, and it is reckoned to last ten to fifteen years, the wires being carefully taken up and replaced every year.

We may mention the result of an experiment on a small scale, of the effect of electricity on vegetation. Two small parcels of mustard seed were sown—to one electricity was applied, the other was left to its usual course: the result was, that while the former grew three inches and a half, the latter grew only one inch. We shall also state, that the barley produced at the rate of thirteen quarters and a half to the acre, weighed nearly two lbs. more to the bushel than any other in the neighbourhood.

This discovery is certainly likely to present a very full compensation for the exhaustion of Ichaboe. The results of the further experiments which are going forward, are promised to be reported.

For the Farmers' Cabinet.

Lightning Rods No. 2.—See page 247

It was my intention to have continued the pictorial illustrations in my future numbers; but the heavy expense of procuring the necessary wood engravings, forbids my doing so. I exceedingly regret the circumstance, but can only avail myself of the figures already given.

An apology may also be due to my readers, for the delay of this number. I can only say, that my time has been occupied in the discharge of more imperative duties.

"Let the thunder teach us."

There are very many persons—intelligent, honest-hearted and pious, who are nevertheless strangers to electrical science, and who imagine that the phenomena of electricity, to them so mysterious and incomprehensible, differ altogether from the ordinary operations of nature; and that they are in fact, *extra*-ordinary agents, which Providence has reserved in His hands as the special instruments of retributive justice. Hence they dare not employ a means of protection—even if they could believe that it would avail them any thing, when opposed to the power of Omnipotence—which they conceive to be in open defiance of Him. To such as these it is bold presumption and daring impiety to erect a lightning-rod. But when the scion of *veneration* is engrafted upon the unnatural stock of *ignorance*, we may reasonably look for an equally unnatural growth of *superstition*, which can only be eradicated by a better *knowledge* of the subject. I hope that my readers will bear with me, and not call this language presumptuous. What I wish to impress upon their minds is—that electrical phenomena, like all other natural events, are produced in accordance with established principles, and governed by certain and determinate laws. Laws too which fall within our observation, and admit of being verified by the clearest evidence and with as much ease as any of the laws of nature. Having once ascertained these laws, we can then speak with as much confidence and certainty, of the *attraction of electricity* which solicits the lightning from the cloud and directs it to the earth, as we can of the *attraction of gravitation* which draws "the stone projected, to the ground." There is no more presumption in reasoning upon the one than the other. There is no more presumption in using any available means of protection against a stroke of lightning than in clothing ourselves against the piercing blast of winter, or seeking shelter from the violence of the passing storm. There is no more presumption in raising a rod over us to avert "the thunder-bolt of Jove," than to step aside from being crushed by the falling bough, which has been torn from the parent trunk by the tempest which He has raised. Neither was it presumption when

"Led by the phosphor light with daring tread,
Immortal Franklin sought the fiery bed,
Where nursed in night, incumbent tempest shrouds
His embryon thunders in circumfluent clouds;
Besieged with iron points their airy cell,
And pierced the monsters slumb'ring in the shell."

No!—it was the voice of that divine intelligence which was implanted in man by the Creator himself, for wise and noble purposes, which

"Bade his bold arm invade the lowering sky,
And seize the tiptoe lightnings e'er they fly."

All the movements of the electric fluid are in obedience to the same governing laws, whether they are brought into play by the drawing of a silk stocking—by stroking the back of a cat—by working an electrical machine, or by the more grand and terrific movements of a thunder storm. They occur with the same regularity, whether elicited by the agency of an amber bead—a silk ribband, or the sable mantle of the skies, as it hurls the dread artillery of heaven upon a devoted world.

The keen perceptions of a Franklin could not fail to perceive the strong similitude between the electricity of his machine, an explosion from which had laid him sprawling on the floor,* and the lightning which

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* The Doctor charged his electrical battery for the purpose of experimenting on a gobbler, when by some unlucky oversight he received the whole charge himself, which threw him senseless on the floor. A friend who chanced to enter the room, inquired what was the matter—his laconic reply was, that he had been trying to kill a *turkey*, but he had liked to have killed a goose.

glared in the gloom of the tempest, and rent the rugged oak with its resistless force—and the inventiveness of his genius soon devised the means to prove their identity. Though both Dalibard and Delors appeared to have preceded him in the execution of this interesting experiment, yet they only acted upon his suggestion, and with a magnanimity as creditable as it is rare, they awarded to him the full honour of the discovery.

Having satisfactorily ascertained the identity of cause producing the two sets of phenomena, and referred them to the same governing laws—and being at the same time familiar with the facts explained in No. 1, Propositions 20 and 21, *fig.* 3 and 4—that the electricity of a charged body will always pass to a ball in form of an explosive spark, but that it will pass to a point in a silent and imperceptible manner even at several times the striking distance of the ball—consequently, that when both are presented as in Prop. 22, *fig.* 5, the point will discharge the electrified body, and *prevent* the explosion—it immediately occurred to him, that this knowledge might be applied to the purpose of protecting life and property from injury by lightning. He compared the electrified body, *fig.* 5, to the thunder cloud—the ball to the top of the building, and the point to the lightning-rod, and the parallel was complete. The two arrangements consisted of precisely the same series of parts; they were necessarily subject to the same governing laws—and therefore similar results must be produced. Thus he arrived at the highly important conclusion, that a properly constructed rod placed in connexion with a building, would silently draw off the electricity from the cloud, before it could approach near enough to do any injury.

Every one is aware that the object sought by the employment of lightning-rods, is protection—but there are still very many who do not know *how* that protection is afforded, and *what* conditions are necessary to secure it. They believe that the rod is intended to present an attractive point for the lightning to strike to, and then to conduct it silently into the earth. If this was merely an erroneous inference from correct data, it might be allowed to correct itself. The premises however are false, otherwise the reasoning would be just and the conclusion true—for if the rod did possess the power thus ascribed to it, of drawing the *stroke*, it certainly might sometimes draw it nearer to them and thus do injury, when it would otherwise have passed at a harmless distance. But from what has been shown, it appears that a pointed conductor never can draw a *stroke*—only a *silent and harmless stream.* I do not hesitate to repeat the strong language of Observer, "*that it is absolutely impossible for the lightning to strike to a conductor which is properly constructed in all its parts.*"

1. *The material and construction of the rod.*—There is so much diversity of opinion among teachers and writers upon the subject, that the inquirer may often despairingly exclaim—"who shall decide when doctors disagree!" Thus Dr. Comstock says, "as *the electric fluid occupies the surface of bodies only*, the most perfect lightning-rods are made of copper tubes, left open so as to conduct on the inner as well as the outer surface." J. M. C. says, "the larger the rod the greater the security, as *the conducting power is in proportion to the solid mass.*" Professor Olmstead quotes authorities to support the latter opinion, and then adds, "it is admitted that the fluid pervades only the surface—still it is maintained that the conducting power depends on the mass."

Again—Dr. Comstock says, "*lightning-rods should not be painted*—oil being absolutely a non-conductor of electricity." J. M. C. says, "*the rod should be well painted with several coats of black paint*, which not only protects it from moisture, but also *tends to increase its conducting power.*" Professor Olmstead says, "a coating of black paint, the basis of which is charcoal, *is essential to the permanent efficacy of the rod.*"

I will not go into the inquiry whether the electricity in its passage pervades the surface or the substance of the rod, because it is unnecessary to do so. It has been shown, Props. 17 and 32, *figs.* 2 and 15, that teh fluid is attracted with a force proportioned to the quantity of matter contained in the charged body. The solid rod containing more matter than the tube, it will exert a stronger attractive force, and will consequently hold a larger quantity of the fluid within the sphere of its attraction. Hence it is practically true that the conducting power is in proportion to the mass of the rod. From Prop. 31, *fig.* 14, it would also appear, that the tube recommended by Dr. Comstock, could not *conduct on the inner surface*, for the simple reason, that the strong mutual repulsion of the electrical particles would not allow them to enter. A solid rod of sufficient size is therefore to be preferred.

The question of paint may soon be disposed of. As the *point* of the rod only derives the electricity from the cloud, its *attracting power* cannot be affected by either a coating of paint or rust upon the surface below. And so long as it remains to be the case that the electric fluid will freely pass

along a rod, however closely it may be invested by glass, resin, wax, sulphur, or other nonconducting substance, we need not fear any material diminution of its *conducting power* from either rust or paint.

Experiments seem to show, that copper is a better conductor of the electric fluid than iron, and is therefore preferred for conductors, but the high price of that metal is a valid objection to its general employment, so long as a cheaper material is found fully to answer the purpose.

In view, therefore, of all that appears to have been ascertained in relation to this subject, I would recommend common *five-eighths* or *three-fourths* round iron, without paint or any other extraneous covering, as being entirely sufficient for the purpose—and believe that it never has failed to afford the desired protection, when the *other conditions* necessary to a *perfect conductor* have been attended to.

Where it can be conveniently done the bars should all be welded into one; but as this can seldom happen in long rods, great attention should be given to make neat joints. The *top of the lower bar* should be drawn into a conical point three inches long or more, and a corresponding socket formed on the *lower end of the upper bar* to *sit close* upon it. When the joint is accurately made in this manner, the fluid can readily pass from one bar to the other—water cannot enter the joint, and where the attachments of the rod are properly made, so as to allow it to slide in the fastenings, the weight of the upper portion will keep the surfaces in complete contact.

2. *The foot of the rod.*—As the rod is more exposed to corrosion from moisture near to and beneath the surface of the earth, it is proper to make the lower part of larger iron. It should be so bent at the surface as to pass off from the foundation of the building at an angle of about 45 degrees. And it is a good precaution to place a few pieces of old stove or plough castings, or other old iron in contact with the bottom of the rod, and then partially to fill the hole with charcoal or blacksmith's cinders. These substances being more retentive of moisture, and better conductors of electricity than mere earth, especially when dry, will form a more perfect connexion between the rod and the ground. But whatever precautions of this sort may be adopted, it is always absolutely essential to the successful operation of the rod, that its foot shall communicate with moist earth. Unless it penetrates deep enough to do this, it will afford only a precarious protection. And it is necessary that it should do this in all situations and seasons however dry, for it is in these that the greatest danger is incurred. From six to ten feet may be a sufficient depth in ordinary situations, but in very dry banks where barns are frequently located, this depth will be insufficient. In all such cases I would advise the rod—or a branch communicating with it—to be carried into a well or spring of water, wherever it can be done. I do not hesitate to affirm, that a very large proportion of the accidents which have occurred where conductors were in use, have been occasioned by a defective communication between the rod and the earth. Owing to this defect, the rod is often placed in the same condition as the wire *e*, *fig.* 8, Prop. 25. It cannot discharge the electricity from the cloud—an explosion takes place to the point as the nearest object, and then passing down the rod its progress is arrested at the foot, by the want of a better communication with the earth, and it is forced to pass by a *lateral explosion* to the nearest and best conducting part of the building. This is a very frequent occurrence, and is fully explained by the beautiful experiment just referred to. While such accidents ought to teach us the necessity of due attention to every particular in the construction of conductors, they should also inspire us with full confidence in their efficacy when properly constructed. I would refer the reader to the Farmers' Cabinet, vol. 5, p. 199, for some *appropo* remarks upon the subject by Observer.

3. *Support and attachments of the rod.*—It is usual to attach conductors to the end of the buildings by means of iron eyes or blocks of wood with bottle necks, or pieces of horn inserted in them. The attachments are of little consequence so long as the rod performs its legitimate duty of silently discharging the electricity; but they may become of much greater importance, if from any cause an explosion should take place. In case of a *stroke*, the attachments ought to be of a nonconducting material, so as to prevent the fluid from passing into the building. A greater degree of security may however be obtained by attaching the conductor to a pole instead of the building, and supporting it with stays from the barn. It may be remarked in this connexion, that in many situations the back of the barn at one side of the door affords more moisture and a more eligible site for the rod.

Franklin.

Sixth month 1st, 1845.

Roses that bloom the whole season may be propagated by budding, grafting or layering—the latter is preferable, and makes very permanent plants.

Annual production of Iron in the World.

Statistical tables published in Prussia and in the United States, give the following as the annual product of iron in the world:

Great Britain, 1,481,600 tons; United States, 443,100 tons; France, 338,150; Russian and Ural Provinces, 119,000; Belgium, 145,867; Germany—Customs Union, 127,538; Sweden, 72,772; Austrian Monarchy, 59,100; Spain, 12,500; Sardinia, 12,250; Poland, 9,200; Germany, not in Customs Union, 7,175; Tuscany, Norway, 5,371; Saxembourg, 3,000; Parma, 1,400; Modena and Naples, 750; Switzerland, 700; Portugal, 420. Total number of tons, 2,839,893.

Great Britain produces about half of the iron in the civilized world; the United States stands next to Great Britain, and France next. The United States produce about half as much as is produced on the continent of Europe. About two-thirds of all the iron trade in the United States is smelted from the ore in Pennsylvania.—*Ledger.*

THE FARMERS' CABINET,

AND

AMERICAN HERD-BOOK.

PHILADELPHIA, SIXTH MONTH, 1845.

We would invite particular attention to the Report of James Gowen, which is found on page 338. Every farmer who is at all ambitious in his calling, will, we think, pore over its details with more than common interest. Notwithstanding what may be said about the all importance of the *practical* part of agriculture, there is nevertheless abundance that is necessarily *theoretical* in the operations of the successful and experimenting farmer. Indeed if we would point to the good farmer and the thrifty one, we must point to a man who accommodates his practice to a sound *theory*, based upon the circumstances which have a bearing upon his pursuit, in his particular situation. It does not require that we should say,—because every one knows it of himself—that the man of slender means must farm differently in some respects, from him whose resources are ample: there is however, the more imperative necessity for him to exercise his judgment—to *theorise* and *calculate*, and thus make all his operations tend to the replenishment and lengthening of his purse. Although we may not be prepared to advise the man who supports his family solely from the land for which he has perhaps not yet paid, to farm just as James Gowen farms, yet neither are we prepared to advise him to farm differently. The great point is to lay your plans with reference to your means, your soil, your location and your market, with such calculating discretion and forethought, as shall insure the greatest profit. We insist upon a continual exercise of the judgment, and upon an abandonment of the plan of following a certain routine, because it happens to have been followed on the land from time immemorial. Read—think—contrive.

The following premiums will be awarded by the Pennsylvania Horticultural Society, at an intermediate meeting on the 1st of next month.

For the best Flake Carnations, four named varieties to be exhibited, $2.

For the best Bizarre Carnations, four named varieties to be exhibited, $2.

For the best Picotee Carnations, four named varieties to be exhibitsd, $2.

For the best American Seedling Carnation, four named varieties to be exhibited, $2.

For the best Cauliflowers grown in the open ground, without protection, four heads, $3.

For the next best Cauliflowers grown in the open ground, without protection, four heads, $2.

At the stated meeting on the 15th of next month:

For the best Raspberries, two quarts, $2.
For the next best do. do. $1.
For the best Red Currants, do. $2.
For the best White Currants, do. $2.
For the best Black Currants, do. $2.

For the best named Gooseberries, in a ripe state, one quart, $2.

For the best named Apricots, two dozens, $2.

For the next best named Apricots, two dozens, $2.

For the best named early Apples, half a peck, $2.

The late dry weather has hastened the mowing season, as well as shortened very considerably the crop of grass. There is room for the exercise of a good deal of judgment in the curing of hay, as well as in choosing the time for cutting it. The scythe should be put into *clover* while it is generally—say, three-fourths of it—in blossom. It is however esteemed preferable to leave *timothy* till a later period—till it is pretty well in the seed. It is perhaps hardly enough remembered that a redundancy of sunshine in making hay, should be avoided. Clover will cure nicely in cock, if put up when clear of moisture. The waste will be much less than if dried altogether in the sun. Farmers differ in opinion about salting hay—some think it best to salt it when put in the mow, while others prefer to cure it properly, and give the salt to the stock by itself, and as it may be required. If, however, from any circumstance it should be necessary to put the hay in the mow rather green, then four or six quarts of salt to the ton will be highly useful.

There is no doubt that grain is often left to stand too long. The risk from storms, &c., is thus prolonged—more is lost in the shattering—it does not handle so well: and it is moreover very generally conceded, that more and better flour is yielded, if the wheat or rye is cut before the berry is fairly hard.

With the thermometer at 96 degrees in the shade, this 9th of Sixth month, at 3 o'clock, P. M., and very dry weather, it is feared the wheat and rye will suffer in the filling.

In walking one day last week, over the farm of Samuel S. Richie, which lies some eight miles from this city, and a mile east of the Germantown road, we were highly gratified with its general appearance, and with the proofs over every part of it, of the close attention and good management of the owner. His lot of wheat—five acres—was really splendid, and the best we have seen this spring, unless it may be rivalled by William R. Tatum's field of fifteen acres, at Woodbury, N. J. The lot had wheat in it last season, and produced a miserable crop. All parts of it were manured last fall, either with Poudrette, Guano, Charcoal from the sugar refiners, refuse from the Glue factory, or with Salt. These applications are now on their respective portions, doing credit to themselves to the evident satisfaction of the farmer. He mentioned a little anecdote, which shows at any rate, that there is virtue in Guano. While he was applying some this spring on another part of his farm, one of his neighbours came along and ridiculed the idea of looking for a compensating return for such an expenditure. After he left him, he took a very small quantity—say half a pint—into the middle of his neighbour's oat field, which was near by, and strewed it around, so as to make on the ground in large size, the initials, S S R, of his own name. The editor accompanied him to the spot, and there were the letters in bold relief, shown by the rank growth and dark colour of the oats, as plainly, and as distinctly as they appear on this page.

Several acres of low land, thoroughly drained with stone, and reclaimed from a worthless bog, really afford a beautiful specimen of what labour properly applied can effect in transforming nature's wildness into the garden's productiveness. This lot will, we think, be a continual source of gratification to the owner, as well as one of the most profitable divisions of his farm.

The cows are partially soiled. We noticed in each of their mangers a lump of rock salt, to which of course they always have access when in the stable. The milk is taken to Germantown twice a day.

The foul state of the fields generally, in the neighbourhood, from being sadly overrun with the daisy now in full blossom, is not a little offensive to the eye of a stranger unaccustomed to such negligence. It is due to our friend to state that his farm is an exception in this particular. He wages war without quarter, to the daisy, the dock, and their associate pests.

We regretted to see the grass and the oats in the neighbourhood suffering so badly from the continued drought: and some rust was observed on the rye.

We learn from the *American Farmer*, that Greely & McElrath, of New York, have made arrangements with our highly valued friend, J. S. Skinner, late Assistant Post Master General, and for the last twenty years well known as an assiduous labourer in the cause of agricultural improvement, to edit for them a Monthly Journal of Agriculture, which they confidently anticipate will not be inferior to any Agricultural work now published. The price will be five dollars a year, payable in advance. Each number will consist of two distinct parts.

I. The *Farmers' Library*, in which will be published continuously the best *standard works* on Agriculture, embracing those which, by their cost, or the language in which they are written, would otherwise seem beyond the reach of a large proportion of American farmers.

II. The *Monthly Journal of Agriculture*;—this will comprise, 1. *Foreign:* selections from the higher class of British, French, and German periodicals, devoted to Agriculture, with extracts from new books, which may not be published in the *Library*, &c., &c. 2. *American:* Editorials,—communicated and selected accounts of experiments—improved processes—discoveries in Agriculture, new implements, &c., &c. The two parts will contain about fifty pages each per month, and the work will be liberally illustrated by engravings.

We keep on hand at this office, and will supply our friends with Agricultural works generally. Among which are

THE FARMER'S ENCYCLOPEDIA, full-bound in leather;—Price	$4 00
YOUATT ON THE HORSE, with J. S. Skinner's very valuable Additions;	2 00
BRIDGEMAN'S GARDENER'S ASSISTANT;	2 00
THE AMERICAN POULTRY BOOK;	37½
THE FARMER'S LAND MEASURER;	37½
DANA'S MUCK MANUAL;	60
Complete sets of the FARMERS' CABINET, half-bound, 8 vols.	6 50
DOWNING'S Landscape Gardening,	3 50
SKINNER'S Every Man his own Farrier,	50
AMERICAN Poulterer's Companion.	1 25
BOUSSINGAULT'S RURAL ECONOMY,	1 50
FARMERS' & EMIGRANTS' HAND-BOOK,	1 00
BEVAN on the HONEY BEE,	31½
BUISTS' ROSE MANUAL,	75
SKINNER'S CATTLE & SHEEP DOCTOR,	50
AMERICAN FARRIER,	50
THE FARMER'S MINE,	75
JOHNSTON'S Agricultural Chemistry,	2 25
HANNAM'S Economy of Waste Manures,	25
LIEBIG'S AGRICULTURAL CHEMISTRY,	25
" ANIMAL CHEMISTRY,	25
" FAMILIAR LETTERS,	12½

As well as his larger works on Chemistry and Agriculture.

☞ We are prepared to bind books to order.

Our friend Samuel Sands, of the *American Farmer*, which has been long published at Baltimore, is about to change it from a weekly quarto, at $2 50 a year, to a monthly octavo of 32 pages, at $1. He promises to furnish one of the best agricultural journals of the day: and as we entirely believe him to be "a man of his word," we wish him all success. We have no doubt the change will be a judicious one.

Good sized round potatoes from the South were in our markets on the 31st ult.—price from 8 to 12½ cents per lb.

The quantity of rain which fell during the Fifth month, 1845, was a little more than one inch and a half. ..... 1.6 inches.

Penn. Hospital, 6th mo. 2nd.

PHILADELPHIA AGRICULTURAL, HORTICULTURAL, AND SEED WAREHOUSE.

No. 194½ Market street, between Fifth and Sixth streets, South side.

For sale as above, Prouty & Mears' Patent Centre Draught Self-sharpening Ploughs, with all the new improvements attached. These ploughs have taken nine premiums the last fall, in the States of Pennsylvania and Delaware. Subsoil ploughs for one or two horses—Taylor's new Patent Straw-cutters—Guillotine Improved do.—Corn-Planters—Cultivators—Harrows; Turnip-Drills, &c. Garden tools of every description. Also, *Vegetable* and *Flower seeds*, crop of 1844, grown for this establishment, and warranted true to name. Among the collection are several new kinds, very superior—as Seymour's White Giant Celery—Union Head Lettuce. Also, Peas—Beans—Potatoes, &c.—Fruit-trees—Bulbous roots, &c., for sale at the lowest prices, by D. O. PROUTY.

Poudrette.

A valuable manure—of the best quality, prepared in Philadelphia, for sale at the office of the FARMERS' CABINET, No. 50, North Fourth Street, or at the manufactory, near the Penitentiary on Coates' street. Present price, $1 75 per barrel, containing four bushels—$5 for three barrels—$15 for ten barrels, or thirty cents a bushel. Orders from a distance, enclosing the cash, with cost of porterage, will be promptly attended to, by carefully delivering the barrels on board of such conveyance as may be designated. The results on corn and wheat have been generally very satisfactory. Farmers to the south and in the interior, both of this State and of New Jersey, are invited to try it. It is now seasonable for turnips, &c.
JOSIAH TATUM.

JOURNAL OF PRISON DISCIPLINE AND PHILANTHROPY. This work is published quarterly under the direction of the *Philadelphia Society for the Alleviation of the miseries of public Prisons*. It is an octavo of 96 pages, and the subscription price $2 per annum. The object of the work may be readily gathered from the title, and from the high character of the Society who have charge of it. It is published from the office of the Farmers' Cabinet, where subscriptions and payments will be received. Money transmitted from a distance to Josiah Tatum, No. 50 N. Fourth street, Philadelphia, kindly franked by the post-master, will ensure the prompt return of the work as published. The second number is now published, containing a fine likeness of Elizabeth Fry.

Agency for the Purchase & Sale of

IMPROVED BREEDS OF CATTLE & SHEEP.

THE subscriber takes this method of informing his friends and the public, that he will attend to the purchase and sale of the improved breeds of cattle, sheep, &c., for a reasonable commission. All letters post paid, addressed to him at Philadelphia, will be attended to without delay. AARON CLEMENT.

March 15th, 1845.

Chester County Farm for Sale.

THE subscriber offers for sale the valuable farm on which he has resided for a number of years past, situated on the Brandywine, two and a half miles from the borough of Westchester, and about twenty-five miles from Philadelphia. It comprises 136 acres of naturally fertile and highly improved land, and equal to any of that which has made this vicinity so celebrated as a grazing district. It has been well limed, fenced and drained, and every field contains a spring or run of water for the stock. The buildings are large, with every convenience attached. The mansion is of modern finish, five rooms on the first floor, with entry running through the middle. The spring water is introduced by iron pipes into the kitchen and bath room in the second story, and also flows into the barn-yard. The grounds around are handsomely laid out with fruit and shade trees and shrubbery. There is an orchard in prime bearing, and a young one of Apple, Pear and Peach trees, is just coming into productiveness. The barn is double floored, with straw house, granaries, wagon house, and shedding attached.

This property presents the advantages seldom met with, of combining a beautiful country seat with that of a highly fertile and productive farm. Application to be made to the subscriber, residing thereon, or to Anthony P. Morris, No. 23 Filbert street, Philadelphia.
PASCHALL MORRIS.

Allerton Farm, near West Chester, Chester co., Pa., Sixth month 14th, 1845. 3t.

COLMAN'S AGRICULTURAL TOUR IN EUROPE.

WE announced a month ago, the appearance of the third number of this highly interesting work. It will be published in ten numbers, at $5, or fifty cents a number, and may be procured at this office. We give the contents of the last No., which will show the nature of the subjects treated of, viz:

Agricultural Education.—Glasnevin Agricultural School.—Templemoyle Agricultural School.—Brookfield Agricultural School.—Larne School.—School at Ealing.—Agricultural College at Cirencester.—General views of Agricultural Education.—Influence of Knowledge upon Agricultural Improvement.—Sciences to be taught.—Chemical Science.—Analysis of Soils.—Natural Science.—Model Farm.—Experimental Farm.—Economical Arrangements at the Agricultural College.—Plan of an Agricultural Institution for the United States.—Elevation of Agriculture as a Pursuit and a Profession.—Rural Manners in England.—A Pencil Sketch.—Life in the Country.—Veterinary College.—Museum of Economic Geology.—Chemical Agricultural Association in Scotland.—Chemical Agricultural Lectures.—Employment of Agriculturists.—Guano.

☞ SHORT ADVERTISEMENTS, ☜

The subject matter of which, may correspond with the agricultural character of this paper, will be inserted at the rate of one dollar for each insertion of ten lines or less; and so in proportion for each additional line. Payment in advance.

EXTENSIVE SALE OF

Improved Short-horned Cattle.

Having become over-stocked, I find myself under the necessity, for the first time, of publicly offering my cattle for sale; and that the opportunity to purchase fine animals may be made the more inviting, I propose to put in my Entire Herd—such a herd of Improved Short-horns as has never before, perhaps, been offered by any individual in this country. The sale will embrace about fifty animals, Bulls, Cows and Heifers; all, either imported, or the immediate descendants of those which were so, and of perfect pedigree. Those imported, were from several of the best stocks in England, selected either by myself or my friends.

It is sometimes the practice at sales of this kind, where the interest involved is considerable, for the proprietor to protect himself by bye bidders, or some other kind of management, or for the owner to stop the sale if offers do not come up to his expectations or the requirements of his interest. Such practices have a tendency to lessen the interest in public sales of this character, especially with those who cannot attend without considerable personal inconvenience. But in this case, assurances are given that no disappointment shall arise to the company from either of the causes mentioned, and a good degree of confidence is felt that there will be no dissatisfaction from the character of the cattle themselves. They shall all be submitted to the company, and sold at such prices as they choose to give, without any covert machinery, effort, or understanding with any persons; reserving to myself only the privilege of bidding openly on three or four animals, which shall first be designated. This reservation is made that I may not get entirely out of the stock of some particular families which I highly esteem, and that could not probably be replaced.

A full catalogue will be prepared and inserted in the May number of the Cultivator.

The sale will take place at Mount Hope, one mile south of the city of Albany, on Wednesday, the 25th day of June next, at 10 o'clock, A. M.

E. P. PRENTICE.

Mount Hope, near Albany, March 15th, 1845.

☞ Gentlemen from a distance, who wish to obtain stock at the above mentioned sale, and may find it inconvenient to attend in person, are informed that the subscriber will make purchases for those by whom he may be authorized. They can state the sum at which bids should be limited, and if convenient, designate the animals they would prefer; or give such general instructions as they may deem proper, under the assurance that they will be strictly adhered to.

SANFORD HOWARD,
Cultivator Office, Albany, March 15th, 1845.

Seed Store,

No. 23 Market Street Philadelphia.

The subscriber keeps constantly a supply of White and Red clover, and other grass seeds. Field seeds, consisting of Spring and Winter Wheats, Potatoe-Oats, Barley, and choice varieties of Seed-corn. Also in season, Fruit and Shade Trees. Garden and Bird seeds generally. Guano in parcels to suit purchasers.

M. S. POWELL.

Philad., March 15th. tf.

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THE FARMERS' CABINET,

IS PUBLISHED MONTHLY BY

JOSIAH TATUM, No. 50 NORTH FOURTH STREET, PHILADELPHIA.

It is issued on the fifteenth of every month, in numbers of 32 octavo pages each. The subjects will be illustrated by engravings, when they can be appropriately introduced.

Terms.—One dollar per annum, or five dollars for seven copies—*payable in advance.*

All subscriptions must commence at the *beginning* of a volume. Having lately struck off a new edition of one or two of the former numbers, which had become exhausted, we are now able to supply, to a limited extent, any of the back volumes. They may be had at one dollar each, in numbers, or one dollar twenty-five cents half-bound and lettered.

For six dollars paid in advance, a *complete set* of the work will be furnished in numbers, including the ninth volume. The whole can thus readily be forwarded by mail. For twenty-five cents additional, per volume, the work may be obtained neatly *half-bound and lettered.* Copies returned to the office of publication, will also be bound upon the same terms.

By the decision of the Post Master General, the "Cabinet," is subject only to newspaper postage: that is, one cent on each number within the state, or within one hundred miles of the place of publication out of the state,—and one cent and a half to any other part of the United States—and Post Masters are at liberty to receive subscriptions, and forward them to the Publisher under their frank—thus affording an opportunity to all who wish it, to order the work, and pay for it without expense of postage.

Joseph Rakestraw, Printer.